ESTABLISHED IN 1872

PAPER TRADE JOURNAL

With Which Is Combined

PAPER

Vol. XCV, No. 24 Thursday, December 15, 1932

Asks Bids on 42,000,000 Pounds of Paper

Joint Congressional Committee on Printing Will Open Proposals January 30 for Supplying Various Lines of Paper to the Government Printing Office for the Year Beginning March 1, 1933 and Awards Will Be Made One Week Later—Specifications Committee Announces Changes in This Year's Schedule—Varieties Wanted

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., December 14, 1932—The Joint Congressional Committee on Printing has announced that bids will be opened on January 30 for the annual supply of paper for the Government Printing Office for the fiscal year beginning March 1 next. Awards will be made one week late. Bids will be opened at the same time for plain envelopes for the same period.

This year there are 184 lots of paper on which bids will be received. The quantity estimated for the year is 42,000,000 pounds compared with 53,100,000 pounds for the present year.

Also next year the Public Printer estimates that he will use 39,578,000 envelopes compared with 48,805,000 envelopes under present contracts.

Specifications Committee Report

The Specifications Committee made the following report on the paper schedule to the Joint Committee on Printing giving details of changes in this years schedule:

The Committee on Paper Specifications respectfully submits its Twenty-fourth Report and the recommended schedule for paper for the public printing and binding and blank paper for the use of the Government departments and establishments in the District of Columbia, for the year beginning March 1, 1933.

A number of changes have been made in the specifications this year, all tending toward the improvement in the quality of the paper or to the simplification of the specifications. The most important of these changes are as follows:

A limitation of acidity, in the conventional term of pH, has been included for the first time in a number of the specifications for book, lithograph, manifold, bond, ledger, and index papers. The acidity limitations have been slightly lowered on 100 per cent rag chart and 100 per cent rag manifold papers.

The ash requirement has been increased to 15 per cent in printing and mimeograph papers; the permissible amount of rosin in the permanent record papers has been reduced, and rosin limits have been included in the specifications for a number of other papers.

The folding endurance requirement has been increased on the writing, bond, and ledger papers, and the bursting strength requirement has been increased in some instances. Folding endurance requirements have been added to the specifications for several grades of paper in order to insure greater durability of these papers.

A requirement for good erasing quality has been added to the specifications for all bond papers. The quality of the chemical wood mimeograph paper has been raised to minimize offsetting and to permit its being written on with ink. The specifications for blotting papers have been improved by reducing the time allowed for ink absorption.

The thickness requirements and titles of the binders boards have been modified slightly in order to conform with commercial practice.

Due to the difficulty experienced in obtaining lined strawboard, this item has been eliminated and lined chip board substituted in its place.

Machine-finish lithograph paper has been dropped from the schedule. Offset book and drumhead manila papers have been added to the schedule to meet the requirements of the Government Printing Office.

Changes have been made in the stock requirements of sulphite papers to permit the use of limited quantities of other kinds of fibers.

The 30 per cent rag requirement for mimeograph, bond, and ledger papers has been changed to 25 per cent in order to conform to the practice of the commercial trade.

At the request of a number of paper manufacturers your specifications committee held a public hearing on November 3, 1932, in order to permit representatives of the paper trade to offer suggestions for modifications in the specifications for paper for the public printing and binding. The changes recommended were carefully considered, and where these could be made without detriment to the interests of the Government, they were accepted.

An important matter considered by the Paper Specifications Committee was the suggested broadening of the stock requirements of the rag papers to permit the use of purified cellulose from any source in lieu of rag. In these specifications it was proposed to include certain additional tests to insure the purity of the cellulose and the durability and permanence of the paper. The committee decided

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News Print Operators' Negotiations Progress

President of Bank of Montreal States Leaders In Industry Have Been Working Earnestly and are Well Advanced in the Intricate Valuations Necessary as a Basis to Formulate Plans for Practical Solution—R. O. Sweezy Advocates Central Agency

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, December 12, 1932—While the Federal Government, momentarily, has abandoned any intention of intervening in the news print situation, interest attaches to the proposal made during the past few weeks from Ottawa to the news print industry. The proposal was rejected, but if conditions warrant, may be revived again at some future date. The degree of authority with which the proposition from Ottawa was presented to news print companies cannot be learned with exactitude, but, in any event, overtures which were generally accepted in the industry as bearing the stamp of the Federal Cabinet were advanced—though never acted upon. The proposal, it is learned, was for the Federal Government to take the necessary power from Parliament to control exports of news print by Federal license. Having done so, the Government would have proceeded to ration production among Canadian news print mills, cutting down the output of some and increasing the output of others. It is understood that many of the companies were favorable to such a policy, while others were vigorously opposed. The difficulties of putting such a scheme into operation without, practically, the unanimous approval of the industry are obvious. It would mean taking production away from one section of the country and giving it to another. Sectional interests, as well as the managements of the companies, were not willing to submit to Federal rationing. Hence the policy, in the meantime, has not been adopted.

Mills Want More Tonnage

The principal matter of discussion in the recent conferences has been the necessity of evolving some scheme to keep the producers together and prevent an open break in marketing arrangements as they already exist. With mill operations varying from 25 to 30 per cent to 100 per cent, and a general average for the industry of 50 per cent, it is obvious that these companies not so fortunately situated in respect to tonnage, must have additional business, otherwise they will cut prices until they get the additional orders. Prevention of such a step involves a re-allocation of tonnage. Those companies with business permitting them to operate their mills above the average have been asked to give up a portion of their tonnage to be placed in a general fund and re-distributed among the companies with a limited amount of business. The majority of the operators are in no position to face a price-war. Much as they desire to keep their own tonnage, it is recognized that the companies with low operating rations must be satisfied, inasmuch as they themselves cannot afford to have existing market arrangements disrupted. In order to keep the situation in hand the re-allocation of tonnage is regarded as of paramount importance at this stage. It is toward that end that recent discussions have been entered into at the conferences.

Re-Allocation of Tonnage

It was anticipated that an agreement would be reached on the matter of re-allocation of tonnage to take care of some of the more hard-pressed companies. An unconfirmed story is that the re-allocation of tonnage agreement as put forward and which, as far as can be learned, has not been approved, provided that International Paper Company would contribute to the general fund something like 60,000 tons. Anglo-Canadian's quota is said to have been 15,000 tons. Mersey Paper is also mentioned as one of the companies that was giving up tonnage to be distributed among the less fortunate operators. It is stated that a temporary arrangement has been entered into by the operators which will hold things together until the conference is able to come to an agreement on some more permanent form of co-operation.

Richmond Paper Plan Turned Down

Stating that the plan is doomed to failure, the Nova Scotia Board of Public Utilities has turned down the application of the Richmond Paper Company, Ltd., for permission to issue shares, erect a plant and provide electrical energy in eastern Nova Scotia and Cape Breton. The company, in its plan, proposed to bring a used electrical generating plant from Nashville, Tenn., and install it at Point Tupper running lines therefrom for a distance of 140 miles and also to lay cables to carry the current to other points, the total estimated cost being $150,000. Following evidence taken, including that of electrical engineers, the board came to the conclusion that the scheme was doomed to failure from the start and, consequently, refused to grant the application which involved the issuing of 9950 preference shares of $100 each and 5,000 common shares at $1 each, also the erection of a pole line.

Seabury S. Gould Succumbs to Pneumonia

Seabury Smith Gould, vice president of Goulds Pumps, Inc., and outstanding citizen of Seneca Falls, died at his home in State street, November 25, of pneumonia, at the age of 44.

Mr. Gould was born in Seneca Falls, a son of Seabury Smith Gould and Mary Mitchell Judd Gould. He prepared for college in the Lawrenceville School and at Mackenzie School in Dobbs Ferry. He matriculated in Cornell University and transferred to Hamilton in his second year, graduating from Hamilton College with the Class of 1911. After completing his college work, Mr. Gould entered the sales department of the Goulds Manufacturing Company and gained first-hand knowledge of selling methods and problems of the Gould organization. After two years of this experience Mr. Gould returned to the main office staff.

On November 15, 1913, Mr. Gould was married in Washington, D. C., to Miss Ana Fulton of that city. Mr. Gould became assistant treasurer of the Gould Company. In 1917 he was commissioned a first lieutenant and served throughout the period of the World War. After the close of the war he resumed his duties as assistant treasurer. He has been a director of the Gould corporation and a vice-president for several years. For the past year he has served as secretary of the Gould corporation.

Mr. Gould devised the farm plot plan for employees of the company early this year by which acres of land owned by the company were used to produce foodstuffs for families of Gould men.

Mr. Gould is survived by his wife, Ana Fulton Gould; one son, Seabury Smith Gould; and two brothers, Norman Judd Gould and Edward B. Gould.

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we'll see it through!

December 15, 1932

To The Paper Men of The City of New York:

We want your help in a serious emergency!

The paper industry has been called upon to contribute funds to the Emergency Unemployment Relief Committee to lessen the wide-spread distress in the city.

The quota for the paper division of the Emergency Unemployment Relief Committee is $105,000. Our division has raised $60,000 to date. We must raise an additional $45,000 by midnight, Monday, December 19, 1932, when the drive ends.

The paper division, therefore, is falling behind the other divisions in this drive. We hope that the companies which have contributed so generously will make an additional contribution. To those companies which have not contributed as yet, we especially appeal for donations.

We must look to you all for generous contributions: from your employees, from your officers and directors, and also from your companies.

Please send in your contribution to Adam K. Luke, Chairman, 230 Park Avenue, New York, N. Y., by Monday, December 19th, 1932.

Remember - we all want the people of the City of New York to know that the paper industry has met its quota of $105,000.

Sincerely,

Adam K. Luke

Chairman

Activities of Fox River Valley Paper Mills

Government Improvement Program Recommends Reconstruction of Power Dam at Kimberly —Appropriations Made for Other Improvements—Domestic Pulp Mill Fight for Countervailing Duties Delayed Until New Congress Meets Next March

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., December 12, 1932.—Reconstruction of the power dam at Kimberly, Wis., where one of the largest of the Kimberly-Clark Corporation mills is located, is recommended in the improvement program of the United States government for the Fox River during the year 1934. An appropriation of $138,000 is included in the harbors and rivers budget for this work for the fiscal year beginning July 1, 1933.

Government engineers have found that the timber crib dam at Kimberly known as the Cedars dam, is badly decayed and has inadequate discharge capacity for maximum floods. The replacement will be built of concrete and steel.

Total maintenance and improvement appropriations for the Fox River are $247,000 in the budget submitted. In addition to the Cedars dam, there is an appropriation of $60,000 for continuance of reconstruction of the dam at Rapids Croche, below Kaukauna, Wis. One-third of the work is being done this winter, another third is contemplated next winter, and the remaining work is to be done the year following. It has been necessary to divide the rebuilding thus in order not to interfere with navigation. A total of $189,796 is being spent in the present fiscal year, including rebuilding of the power dam at Little Chute, Wis.

The board of engineers for rivers and harbors has recommended a survey, to cost about $6,000, to formulate a flood control plan for the Fox River. Complete development of the Fox River will cost about $1,161,300, engineers estimate. They also propose deepening and widening of the harbor at Green Bay, Wis., to provide 22 feet depth in the outer channel, with a width of 300 feet up to the river mouth. These latter changes will cost $625,000. A maintenance appropriation of $22,500 will be necessitated annually.

Working for Countervailing Duties

Because of the organization work necessary and the desire for decisive action, pulp manufacturers of Wisconsin and Michigan who have created a committee to work for countervailing duties on foreign pulp will not attempt any activities at the present short session of Congress. They will bend their efforts in the meantime towards interesting pulp mills in other parts of the country, and allied industries also suffering from the depreciation of foreign currencies. Data also will be gathered so a united front can be presented in the fight of survival by domestic pulp mills. The matter will then be taken up with what the committee terms the "new deal" Congress next March, where they will make plain the necessity of relief if the pulp industry is to survive. The committee headed by M. R. Jeffries, wood pulp producer of Rhinelander, Wis., will not ask for a tariff on pulpwood, but only a countervailing duty to offset the monetary differential between the European countries and the United States, by which the Scandinavian countries have an advantage of $6 to $10 a ton on price.

It has been pointed out in recent hearings before the senate foreign relations committee on the Great Lakes-St. Lawrence waterway project that the importation of foreign pulp is necessary, because the country is reforesting at the rate of only 10 per cent, and the wood supply will be exhausted in fifteen or twenty years. The Scandinavian countries therefore protect local reserves by augmenting the supply and have been given duty-free privileges. The currency differential, however, has removed competition that was not ruinous and has caused the shut down of some mills, and a like threat to others.

Extent of the displacement of domestic pulp is shown in figures quoted at the recent conference of pulp manufacturers at Green Bay, Wis. In 1929 the receipts of foreign pulp at Lake Michigan ports, principally for Wisconsin and Michigan mills, was 16,173 tons. In 1930, there was an increase to 32,758 tons and in 1931 to 73,767 tons. Figures for all ports for 1932 during the first ten months are not complete, but they will show another huge increase over 1931. A bill introduced in the last session of the present Congress by Congressman Hawley, of Oregon, supplied the remedy now sought, but the bill died in committee largely because of lack of interest by the administration, it was reported, and by large publications refusing to assist.

Comment of pulp mill owners was to the effect that the policy of buying raw materials with greatly depreciated currency and then selling the manufactured paper in a highly protected domestic market for sound American dollars was declared not to be good business, because it has resulted in producing a chaotic condition in the entire paper industry, with scarcely a mill operating at a profit and prices completely demoralized. The new organization aspires to confer with these mills and argue this proposition and appeal to the paper manufacturers to join the pulp men in re-establishing their industry or at least preventing the collapse which seems imminent under a continuation of existing circumstances.

Nekoosa-Edwards Pushes Mill Addition

Cold weather has not prevented the Nekoosa-Edwards Paper Company, Nekoosa, Wis., from pushing construction of its two story mill addition. Workmen are putting up the concrete skeleton for the super-structure and the bricking-in will be started within a week or two. The building is 50 by 114 feet and will cost about $16,000.

Dr. Rue Addresses Vocational Students

Dr. John Rue, of the Hooker Electro-Chemical Company, Niagara Falls, N. Y., formerly director of the United States Forest Products Laboratory at Madison, Wis., gave three addresses in Wisconsin last week. He spoke to evening classes of pulp and paper mill workers at vocational schools at Wausau, Wisconsin Rapids and Rhinelander. In his subject of "Bleaching," he pointed out interesting developments in both pulp and textile bleaching. Equipment, processes and chemical actions were stressed.

Marathon Mills Hold Bowling Contest

Employes of the Marathon Paper Mills Company, at Rothschild, Wis., and of the branch plants at Menasha, Ashland and Wausau, Wis., gathered at Wausau Saturday of last week for an inter-plant bowling tournament. Teams of both men and women took part in match games. A dinner followed at the Elks club and the events concluded with a dancing party.

Chicago Paper Market Practically Marks Time

Present Lightness of Inventory, Due to Prevailing Business Conditions and Other Reasons, Indicates Slowing of Trading Activity Between Present Time and Middle of January—All Sections of Paper Industry Comparatively Quiet

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., December 12, 1932—The natural desire of paper jobbers and the paper trade in general to hold inventories as low as possible at this time, due to tax and other reasons, coupled with the present lightness of inventory due to business conditions, are expected to combine as further reasons why business between now and the middle of January is expected to be rather slow. Many of the salesmen will be off the road making adjustments for the coming twelve months' period, preparing new lines and new sales campaigns.

In the meantime all local markets are comparatively quiet. The meeting of the Writing Paper Manufacturers Association, held in Chicago this week, was given much attention by the fine paper trade here, although general results of the two day session have not been made public. Spotty conditions prevail in the fine paper market. Krafts showed evidence of continued weakness and, with holiday business over, this market is expected to be in a position to receive a general overhauling between now and the next two months. The paper board industry shows signs of improvement in demand and also in a broadening of its cooperative endeavor—both of which are considered heartening. Ground woods are dull and consumption of news print is reported at a lower figure, with consumers carefully watching the business trend before making commitments to any great extent. Books and covers remain practically unchanged. Waste papers are active only in a few of the grades which reflect a better demand for paper board, container, etc.

Paper Salesmen's Activities

The last two sessions of the Middle West Division of the Salesmen's Association of the Paper Industry have been given over to a thorough discussion of the proposed paper exhibit at the Century of Progress Exposition in Chicago in 1933. The association has had quite a bit to do with the formation of a paper foundation, a non-profit organization which has gotten under way during the past ten days. The paper foundation is to have an office on the third floor of the Conway Building which is, unofficially, the headquarters of paper activity in this area, and from this office is expected to come to the trade in general strong arguments as to why the industry should be represented at the coming Fair.

The Salesmen's association will have at least two important weekly meetings prior to the Christmas holidays and, because of the season, Creighton Whiting, president of this district, expects a large attendance. These sessions will be devoted to a thorough going over of various trade abuses and practices in an earnest effort to get to the basic reasons for these troubles. The salesmen, out on the firing line, have an opportunity to observe these various practices in detail and their analyses of present difficulties should present an interesting picture to the entire paper industry.

Writing Paper Manufacturers Meet

The Writing Paper Manufacturers Association held an important two day conference in Chicago on December 6 and 7 at the Blackstone Hotel. Emmett H. Naylor, secretary of the association, was in Chicago and in charge of the sessions, which included general discussions and smaller group meetings for various sections, such as sulphite bond, rag content, cover, etc. In addition to giving various trade abuses and practices much serious consideration the members of the association discussed at length the efforts being made to get the Government to go through with the project relative to depreciated currency which would place a duty in effect to make it possible for United States buyers to trade with foreign countries on a gold standard basis. The meeting was exceptionally well attended.

Shellmar Products Co. Plans Addition

The Shellmar Products Company, 3501 West 48th Place, manufacturers of paper products, including paper specialties, has asked bids for one story top addition to a plant at 4822-30 South St. Louis Avenue, Chicago, including improvements in the present plant. The new construction work, according to the present report, is expected to be approximately $100,000.

Trustee Named for Iroquois

[FROM OUR REGULAR CORRESPONDENT]

THOMPSON, N. Y., December 12, 1932.—A meeting of creditors of the Iroquois Pulp and Paper Company was held this week before Judge Borst at which the First Trust Company, of Albany, was named trustee. The appointment of William Murray, Stephen Keating and Louis Follett as appraisers was also announced.

A certificate filed by the company shows liabilities of $517,871.94 and assets of $1,197,551.98. A claim of $95,000 was presented by the First Trust Company, of Albany, and a claim calling for $40,000 by Luther A. Wait, president of the paper company. Other claims presented included $533 for wages and $8,407.84 for taxes.

A mortgage claim of $135,000 was presented by the Adirondack Trust Company, of Saratoga Springs, which also showed another claim for $100,000 as trustee, also secured by mortgage. The same company also holds a note for $75,000 indebtedness.

These claims, with the exception of half of the $40,000 claim of Mr. Wait, are secured by manufactured paper now in the storehouse of the company awaiting better market conditions. The remaining half of the claim by Mr. Wait is secured by accounts collectable. Unsecured claims amounting to $60,831.10 were included in the schedules.

The assets of the company show that the real estate is valued at $527,529.85; stock in trade $140,600; machinery and tools $463,560.84; due the company on open accounts $48,028.56; funds on deposit in banks $17,132.73. It is understood that permission will be sought to operate the plant as soon as conditions are more favorable.

A claim is also pending against the company as the result of an interlocutory judgment for injunction granted to the United Paper Board Company. The proceedings have been in the courts for some time and is now before Supreme Court Justice Rosch to determine the amount of damages.

Canadian News Print Export Control Rejected

Federal Government Momentarily Abandons Intention of Intervening In News Print Situation —Ottawa May Revive Proposition Again Should Conditions Warrant—Agreement May be Reached Shortly on Re-Allocation of Tonnage

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., December 12, 1932—What may be regarded as a semi-official statement regarding the progress of negotiations between news print operators and the bankers' committee, which for weeks past has been endeavoring to find a solution for the evils that affect the industry, was contained in a speech delivered at the annual meeting of the Bank of Montreal by Sir Charles Gordon, the president of that institution. Referring to unsatisfactory conditions in regard to manufacturing generally, he said:

Remarks by Sir Charles Gordon

"Outstanding in this respect has been the situation in regard to the pulp and paper industries which have headed the individual lists of the Dominion in wage and salary distribution since 1922 and have been the first in gross value of products since 1925. Canada's exports of news print have for years been second only to her exports of wheat, and it is unfortunate that over-development of productive capacity, combined with sharp reduction in demand, has reduced the industry to a non-profitable basis. Recent price-cutting has added to these disabilities and has shown more clearly than ever that there can be no permanent betterment until measures for co-ordinating production are put into effect. Leaders in the industry have been working earnestly and assidiously to this end and are well advanced in the intricate valuations and other compilations necessary as a basis upon which to formulate plans for a practical solution."

Central Marketing Agency Proposed

R. O. Sweezey, of Montreal, who for years has occupied a prominent place in regard to the pulp and paper industry of Canada, is now advocating the establishment of a central agency to control the marketing of news print. He has set forth his plan in a radio address delivered here. In his address, which is given much prominence in the local papers, he combatted the belief that over-expansion of the industry has been of the most reckless character. With business enough to operate the whole industry at half capacity in times like these, he said, it is not unlikely that under normal conditions all of the capacity of the present plants in Canada could be kept in operation. The outlook, therefore, from a business standpoint, is not so bad. In fact it is good.

He criticized the mergers which had taken place, saying the theory that it would cost less to operate various mills under one management had been shown in practice to be utterly wrong, and furthermore the financial structures of some of the mergers were open to serious criticism. He continued:

"The present situation is critical. It demands prompt and effective action, and the clear-cut solution is to organize one central sales body, into which every company shall pool existing contracts, making this central sales body sole sales agent for all companies. In this way each company can be sure to receive its pro-rated tonnage of available business.. It will then be free from having to depend upon the shadowy force of 'Gentlemen's Agreements' which do not bind, and the price may be stabilized at a fair figure, in which the buyers of news print paper shall find proper comfort and confidence in the integrity of the producer."

One or two men of ability could easily organize such an undertaking, he said. The results would be that every mill would receive the same price for its product, and the management could direct its attention to lowering of costs and elimination of waste instead of spending its valuable time in the luxury of a large city.

News Print at $45 in British Columbia

From Vancouver it is announced that forty-five dollars a ton will be the new basic price for news print in the Pacific coast zone next year, according to announcement by A. E. McMaster, general manager of Powell River Company.

Powell River will guarantee a maximum price of $48.50 a ton for news print in 1934 and of $52 a ton in 1935.

Pacific Mills, the other large British Columbia news print concern, has also set $45 as the 1933 price.

B. C. paper mills are now operating eighteen days a month at about 75 per cent capacity.

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3 Cent Postage Hurts Fine Papers

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., December 12, 1932—As Christmas approaches, it becomes more and more apparent that the demand for fine paper to be used in direct mail campaigns by local merchants will be very small as compared with previous years. Most of this decline is directly traceable to the postage increase. An investigation at the local post office discloses that these increases rather than helping increase revenue, have served to cause it to decline. Most of the meager buying that will be done already has been accomplished. Printers are much disgusted with the slender pickings this season. On the other hand, it seems that newspapers will benefit considerably. Much of this money formerly spent on direct mail advertising will be transferred to the display accounts. Already the local papers are increasing their pages and in another week the country papers will do the same. This means a certain increase in the volume of news print consumed and it is likely December's volume of news print will be materially larger than the same month a year ago.

Some of the box factories have increased their production slightly due to Christmas business. The early demand caused a depletion of warehouse stocks and these now are being built back to somewhat near the former levels. According to box manufacturers here there is a slight, but gradual increase in demand. The regular customers apparently are not using much more material than they have been, but there are new customers appearing in the market.

The paper stock market continues about the same. Little change is seen in prices, which are somewhat firmer than they were a month ago. However, the paper stock companies here are paying the same price for paper they have paid for some months.

In spite of difficult collections, poor business and what not, the local trade is facing the new year with confidence. Inventories this year-end will be very low and stocks will be kept low until a definite trend is noticeable for more demand.

Boston Paper Market Rules Seasonably Quiet

Wholesale Paper Trade In New England Continues Listless, Due Mainly to Effect of Inventory Period—Bulk of Business Transacted Consists of Orders for Immediate Requirements—Price Situation Practically Unchanged During Dull Period

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., December 12, 1932—Seasonal quiet, due in part to the inventory period, prevailed in the wholesale paper market in Boston and New England during the last week. Those purchasers who are taking account of stock are not placing orders for more than immediate requirements. The demand for papers from the department stores and other buyers for holiday purposes has been practically, if not wholly, filled. In the comparatively dull period, however, prices have remained at the same levels, with a general feeling of confidence on the part of merchants. Some report satisfactory sales for the year, considering conditions.

While orders for fine papers were less in number and the market slow as a whole, in some cases individual orders were larger than previously. The call for wrapping paper was in some cases "real quiet." Specialties are in fair demand. The box board market slowed up a bit seasonally, but values continued at the same figures.

Paper stock was dull, with quotations marked down in a few cases. No. 1 soft white shavings have declined on the low side and are now quoted at 1.50 @ 1.65, compared with a former range of 1.55 @ 1.65. No. 1 mixed papers are now offered at .12½ @ .15, against a flat .15, previously quoted.

Sanford Manufacturers Chartered

Sanford Manufacturers, Inc., is a new company recently incorporated to build machinery for making paper specialties, corrugated boxes and other automatic machinery, with plant at 471 Atlantic avenue. Frank W. Sanford has operated a business of manufacturing automatic machinery at this address for several years. The officers and incorporators are: Paul A. Draper, president; Edward V. Hickey, treasurer; and Frank W. Sanford, director. There are 100 shares of no par value. Mr. Draper is of Draper & Co., wool merchants, who have been representatives of the National Wool Marketing Corporation. Mr. Hickey is an attorney. The company occupies two floors. A machine shop is on the third floor. The business office is on the fourth floor, where some manufacturing is carried on.

News of the Trade

A sales meeting of Carter Rice & Co. Corp., in connection with the new line-up of Oxford papers was held Friday. The entire Carter Rice executive and sales forces were present, including the men from the Worcester division and Springfield and Providence offices. Wilson D. Rogers, of the Oxford Paper Company, whose plant is in Rumford, Me., and offices in New York City, led the discussion, presenting the entire program of advertising and sales promotion plans under way to help the merchant build sales of Oxford book papers. The meeting was preceded by luncheon at Warmuth's restaurant. N. R. Hopkins and F. A. Borchers, of the Oxford Paper Company spoke briefly.

Ernest S. Reid, sales representative, removed Saturday from the Little Building to 726 Chamber of Commerce Building. Mr. Reid has sent letters to leading paper merchants saying that in 1933 he will confine himself to the representation of the Crystal Tissue Company, Hamersley Manufacturing Company, Kleen Products, Inc., and Diana Manufacturing Company.

Assistant Secretary C. A. Spaulding, of the National Paper Trade Association of the United States, came to Boston Friday, remaining until today.

A. P. Lane, traffic manager of the Great Northern Paper Company, was elected one of the vice presidents of the Traffic Club of New England at the annual banquet of the organization at the Copley-Plaza Thursday evening.

Wisconsin Waste Disposal Committee Meets

The advisory committee on waste disposal of the Wisconsin pulp and paper industry met with the officials of the Wisconsin State Committee on water pollution November 29, at which time work accomplished in 1932 was reviewed and plans laid for attacking the problem of stream pollution in 1933.

During the summer of 1932, representatives in the state cooperating with the industry have made surveys on sewers emptying from the mills into the rivers of the state in every mill in the state. Reports on these surveys will be sent to each cooperative mill in the near future. These surveys in general show an improvement in recovery of waste by mills over the previous year, and it was agreed by the committee that the laboratories and personnel of the mills would again service the state in a similar survey the coming year.

Tests made on rivers of the state were also reported on and these reports indicate considerable improvement in stream conditions in spite of low water flow this last summer.

The meeting of the committee, instead of being held at the State Capitol, Madison, was held at the Marathon Paper Mills Company plant at Rothschild, Wisconsin, and the Howard process of waste sulphite liquor recovery being developed at that plant was gone into thoroughly. The committee believes Mr. Howard has made splendid progress toward economic recovery of waste sulphite liquor.

The general economic conditions of sulphite and kraft industry in Wisconsin was reported on and results of other researches, including ozone treatment of wastes, were reported on by state laboratories.

In addition to the regular members of the committee and the State Board of Health authorities, the meeting was attended by C. E. Curran and E. R. Schaefer of the Forest Products Laboratory, Otto Kress of the Institute of Paper Chemistry, C. M. Baker of the American Paper and Pulp Association, Mr. Kannenberg, who additionally represented the State of Wisconsin, and Allen Abrams and Guy Howard of the Marathon Mills at Rothschild.

The advisory committee consists of H. A. Rothschild, Kimberly-Clark Company, chairman; E. P. Gleason, Nekoosa-Edward Paper Company; W. F. Thiele, Consolidated Water Power and Paper Company; S. B. Bugge, Tomahawk Kraft Paper Company; A. Wakeman, Fox River Paper Company; L. W. Armstrong, Dills Pulp and Paper Company, and Joseph Staidl, Thilmany Pulp and Paper Company.

Paperboard Industries Association Organization

With the approval of its members at the November, 1932 meetings in New York City, the Paper Board Industries Association organization has been established as a parent organization to serve the paper board and box industry as a whole, and in general to conduct customary trade association activities, devoted to the general welfare of the paperboard and box industry.

As now organized, it affords:

(a) A forum for consideration of subjects affecting two or more branches of the industry and a clearing house for the interchange of information on subjects of common interest.
(b) A medium for maintaining contacts with other national trade associations or other organized groups, governmental departments and transportation agencies.
(c) A special department for the collection and dissemination of statistics, the auditing of statistical reports and other accounting service.
(d) Traffic and classification service, including the handling of matters before Railway Committees, the Interstate Commerce Commission, the Bureau of Explosives, *et al.*

The executive committee of the parent association is composed of representatives from each group, and each branch of the industry has proper representation and voice in adopting general policies, establishing budgets, etc.

It will probably be necessary to hold only two meetings each year of the entire association membership, possibly a meeting in the west in May and a second meeting in the east in November, whereas the separate divisions or branches of the industry will hold more or less frequent meetings at such times and places as the members of the respective groups may elect.

Group Organization

Under the organization, each group elects its own officers and committees and is, in and of itself, an independent body in so far as its problems and activities are concerned. Its representatives on the Executive Committee of the Paper Board Industries Association serve as a point of contact with representatives of other groups in the establishment of general association policies and procedure. This is a change from the former arrangement of holding frequent joint sessions attended by representatives of different divisions of the industry and it will now be possible for each group to concentrate upon the pertinent problems of its own branch of the industry.

All members of the individual groups automatically hold membership in the Paper Board Industries Association.

The members of each group bear the cost of the specific services desired by such group, and the payment includes a proportionate amount for general administrative expenses.

The following groups have already been organized and are now functioning:

Paper Board Mill Group

(a) Western Box Board Group—
Embracing the paper board mills in the west and southwest, making other than container boards.
(b) Paper Board Exchange (East)—
Embracing the paper board mills in the east, making other than container boards.
(c) Container-Board Group—
Embracing the paper board mills manufacturing liners and chip board for container purposes.
(d) Corrugating Materials Division—
Embracing the mills manufacturing straw board, chestnut, pine wood fibre board and sulphate fibre board used for corrugating.

Container Group

The Container Group of the Paper Board Industries Association, in so far as association service is concerned, continues to function uninterruptedly, exactly as in the past. This group, at its meeting in New York City, on November 16, 1932, empowered its three representatives on the executive committee of the Paper Board Industries Association, to proceed as they consider best, with a view to submitting to the Container Group membership a definite plan for reorganization of that group.

While this committee has not yet formulated a definite reorganization plan, the tentative plan is to divide the container industry into two groups, each group having its own officers and committees, and each group being a member of the Paper Board Industries Association, in the same manner as the other groups which have already joined the parent organization, subscribing for such service as their members may desire.

One of these groups will correspond exactly to the present Container Group of the Paper Board Industries Association, membership being open to any container manufacturer regardless of whether or not he has a mill. The other group may limit membership to so-called independent container manufacturers and independent mills.

Folding Box Group

It is contemplated that the manufacturers of folding boxes will be organized as a separate group, having its own officers and committees, holding sectional or local group meetings as its members may elect and, in general, functioning the same as the other groups of the parent organization.

Present Membership and Tonnage

A total of 113 companies are enrolled in the membership as of this date, and the tonnage is the greatest ever included in any one association of the paper board and container industry.

Minisink Paper Co. to Reopen

Louis T. Stevenson, sales manager of the Minisink Paper Company, Inc., with plant at Minisink Hills, Pa., and New York office in the Chrysler Building, announces that the company has taken a long term lease of the paper mill property formerly operated by the Analomink Paper Company, formerly at North Water Gap, Pa. After a short shut down to effect changes to improve the product, the plant will be re-started about December 15. In addition to the regular lines of manila wrapping paper and bogus bristol, the mill has made many sulphite specialties which line it expects to continue. Some of its other specialties are tag, cover, textile, dynamite shell paper, envelope, folder stock, imitation pressboard, colored specialties, die wiping, black album, black paper and construction papers.

The mill is using up to date control methods with a view to increasing uniformity of its product.

Philadelphia Paper Market Still Marking Time

Usual Slowing Down of Seasonal Holiday Business Experienced In Fine Paper Division—Situation Not Seriously Affected by Occasional Shading of Quotations—C. A. Spaulding Endeavors to Organize Local Coarse Paper Trade

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., December 10, 1932—The trade's experience during the second week of December was a rather monotonous repetition of that of the first week. There were, however, enough slight differences to somewhat change the annals. In the fine paper division there was the usual slowing down of the seasonal holiday trade; it was broken by some exceptionally good and unexpected rush orders. Generally, however, demands of the printers fell off very decidedly and no large volume of business was enjoyed. In this division there does continue some shading of prices but these are really no serious factor in the situation, confirming the suggestion made in these columns a week ago that while December business showed a loss from that anticipated by the experience of November, contrasted with a comparable period of the period of distress, conditions will not be found discouraging.

Allen Whiting Confident of Future

Allen E. Whiting, president of the Whiting-Patterson Company, said: "Speaking not as an optimist, although I am inclined to that point of view, but seriously as a realist, it is my firm opinion that we in the paper trade are enjoying a real encouraging condition of affairs. This does not involve the suggestion that business is brisk; it is not, but my observations, personally and generally, prove to my own satisfaction that there has been a steady increase of demand from last July on with occasional recessions it is true, but with forward movement sufficient to overcome them and slightly more, so that we have really gained an appreciable amount. How long this will continue and how steadily it will improve I do not venture to suggest but I do feel quite confident of the future, and as well, satisfied with what is already here."

In the coarse paper division the distinction which the past week enjoyed in contrast with the preceding, was solely a slowing down of the intense, even fierce, competition to secure business with the primary object to get the order, and the price, or even a profit, a secondary one to very many. Unfortunately the easing up of this price strife is believed to be due not to influences which are at work but rather to inability to get business even with cut-price inducements.

Organizing the Wrapping Paper Trade

The hopeful aspect of the situation lies in the fact that the conditions gave opportunity for missionary work to be done by C. A. Spaulding, secretary of the Wrapping Paper Division of the National Paper Trade Association who, during the week, has spent quite a little time here for the purpose of organizing the trade, not alone for its own benefit but really for participating benefit by customers.

The outcome of his interview with as many of the heads of wrapping paper houses as he was able to secure, was the meeting held in the offices of the D. L. Ward Company on Tuesday last, at which were present the representatives of the host company and as well of the J. L. N. Smythe Company, Garrett-Buchanan Company, Simon Walter, the Paper Manufacturers Company, and the Enterprise Paper Company, whose Mr. N. B. Isen's activities in the Paper and Bag Institute of Philadelphia have been marked. Mr. Spaulding reported a welcome reception by all of those whom he interviewed and the expression of their desire to establish in Philadelphia a wrapping paper division, if that be at all possible.

Certainly, every one of the influential factors in the situation indicated their thorough accord with the principle of organization, although some expressed doubt that in view of experiences along similar lines sometime ago, there did not yet exist that full confidence, each in all the others, which was requisite. On the other hand, there was a very distinct realization that trade conditions in this branch of the business was so unsatisfactory, even demoralized, that self preservation quite as much as business ethics demanded a cure. The outcome of the conference was decision to proceed with an effort to secure unity among all the houses specializing in coarse paper, and determination to hold another meeting probably for the purpose of forming a permanent organization, and which tentatively has been set for January 12 in the rooms of the Typothetae of Philadelphia. Meanwhile, missionary work will be continued not only by Mr. Spaulding but by those whose presence at the conference this week indicated their interest in the matter, and from whom there were received expressions of willingness to give all possible cooperation.

Paper Stock Offerings Scarce

Paper stock packers report a continuing small supply of white shavings and the better grades of stock rapidly approaching the point of actual scarcity. Although it is known that mills are desirous of securing stock, their eagerness has not yet grown to the point where it is possible to move supplies at any advance in price. A full line of commons is not very plentiful in supply because quotations are still so low that they cannot be handled with an adequate profit, if indeed any profit at all. The market is well cleaned up and there are no accumulations, and inside rather than outside quotations still maintain.

The special holiday demand for binders board continues fairly well, even though the height of the season has now been passed. Purchases by large department stores and other heavy consumers of card board have not quite been up to expectation but the dealers are of opinion that the season is proving to be a late one and that before it closes, the showing will be more satisfactory that it now is.

News of the Trade

The Paper Trade Association of Philadelphia is scheduled to hold its next meeting at Dufors Restaurant on the 14th. No matters of particular interest have been scheduled for discussion.

Arthur H. Lewis, manager of the Credit Bureau of the *Paper and Bag News* (a weekly paper published in the interest of The Paper and Bag Institute of Philadelphia), reports that in an analysis of reports, requested by members of the Institute during the past ten days, there is revealed the interesting fact that an unusually large percentage of these are for new concerns which have either never been in business before or in the past have traded obscurely and without open credit dealings. He urges that much stress be given because of the instability of these concerns who open up on a shoestring basis and are continuing business only until after the Christmas Holidays.

New England TAPPI Projected

A large group of members and friends of the Technical Association of the Pulp and Paper Industry met on Friday evening, December 9, 1932, at the Nonotuck Hotel, Holyoke, Mass., to consider the formation of a local section similar to the TAPPI Sections of the Pacific, Lake States, Kalamazoo Valley and the Delaware Valley.

The meeting was opened by the temporary chairman, W. O. Johnson, Strathmore Paper Company, who introduced C. C. Heritage of the Oxford Paper Company, and vice president of the Technical Association.

Ideals and Purposes

Mr. Heritage gave an interesting talk on the ideals and purposes of the association and congratulated the local organization committee on the hearty response they received to the questionnaire sent out to the members to ascertain if the formation of a local section is desirable.

R. G. Macdonald, secretary of the association was next called upon to speak and he spoke about the early history of the Technical Association and described the contents of the New TAPPI Yearbook, which has just been received from the printer and will be in the hands of members in a few days. Included in the Yearbook is the proposed Code of Ethics that will be considered for adoption at the annual meeting of the association in February. The code was read since its value to the operation of local sections is considerable.

Report of Nominating Committee

The next order of business was the reading of the report of the nominating committee by the temporary chairman. The following officers of the proposed section were nominated and elected unanimously: chairman, F. C. Clark, vice president, Skinner & Sherman Inc., Boston, Mass.; vice chairman, F. A. Curtis, American Writing Paper Company, Holyoke, Mass.; secretary, Helen U. Kiely, chief chemist, American Writing Paper Company, Holyoke; treasurer, W. O. Johnson, manager, Strathmore Paper Company, Woronoco, Mass.; executive committee, R. C. Griffin, director of tests, Arthur D. Little Inc., Cambridge, Mass.; C. C. Heritage, manager of coating division, Oxford Paper Company, Rumford, Maine; E. O. Reed, technical director, Crane & Company, Dalton, Mass.; R. M. True, assistant superintendent, Crocker-McElwain Company, Holyoke; and L. M. Yoerg, vice president and general superintendent, American Writing Paper Company.

Remarks by F. C. Clark

The new chairman, F. C. Clark, was presented to the section and he told about the former organization of TAPPI members in Holyoke, when it was common to have 200 or more at a meeting. Mr. Clark stressed the point that those who give the most in association effort get the greatest returns. This is particularly true in national committee work. It is planned to have accurate minutes taken of the meeting discussions and have these sent only to those who attend the meetings. There will probably be three or four meetings during the first year and possibly later, if the interest warrants they will be held more frequently. Everyone working in a paper mill or an allied industry is welcome at the meetings—engineers, superintendents, machine operators, beatermen, chemists, draftsmen, stock and finishing room operators, etc.

The principle speaker of the evening was Dr. S. N. Williams, professor of physics at Amherst College, who talked on Bernouilli's principle, wherein it is demonstrated that hydrostatic pressure is greater than hydrodynamic pressure. He illustrated this principle by means of a large number of experiments and finally showed their practical application to aviation ventilation and building design.

Those Who Attended

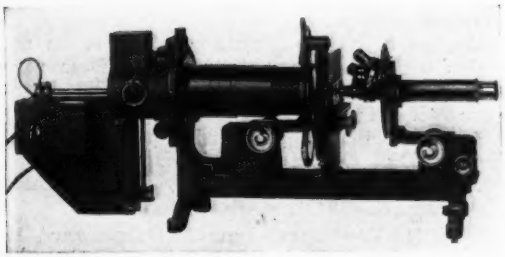
Those present included H. A. Bolles, Strathmore Paper Company, Woronoco, Mass.; Frank Borlen, American Writing Paper Company, Holyoke, Mass.; T. C. Bowen, American Writing Paper Company; Maurice Blew, Strathmore Paper Company; Fred Bahrenburg, Strathmore Paper Company; W. J. Burke, American Writing Paper Company; G. S. Carroll, American Writing Paper Company; W. J. Cassidy, American Writing Paper Company; R. I. Chapin, American Writing Paper Company; G. C. Chase, Chemical Paper Manufacturing Company, Holyoke, Mass.; F. C. Clark, Skinner & Sherman Inc., Boston, Mass.; William Connelly, Roland T. Oakes Company, Holyoke; A. S. Cosby, American Writing Paper Company; Howard Ferguson, American Writing Paper Company; J. J. Finn, Roland T. Oakes Company; D. B. Galbraith, Roland T. Oakes Company; P. P. Gooding, Strathmore Paper Company, Woronoco, Mass.; R. C. Griffin, A. D. Little Inc., Cambridge, Mass.; N. E. Hayward, American Writing Paper Company; S. D. Hellberg, American Writing Paper Company; C. C. Heritage, Oxford Paper Company, Rumford, Maine; E. L. Hill, American Writing Paper Company; W. O. Johnson, Strathmore Paper Company, Woronoco; H. C. Johnson, Strathmore Paper Company, Woronoco; J. P. Kennedy, American Writing Paper Company; J. D. Kennedy, American Writing Paper Company; Helen U. Kiely, American Writing Paper Company; R. E. Kilty, American Writing Paper Company; Edward Lavallee, American Writing Paper Company; J. T. Leecock, American Writing Paper Company; R. G. Macdonald, secretary of TAPPI; John Newton, Roland T. Oakes Company; F. H. Osborne, C. H. Dexter & Sons Inc., Windsor Locks, Conn.; R. W. Pattison, American Writing Paper Company; M. Pinatti, American Writing Paper Company; W. L. Redfern, Roland T. Oakes Company; L. C. Reece, Whiting Paper Company, Holyoke, Mass.; E. O. Reed, Crane & Co., Dalton, Mass.; L. C. Reynolds, American Writing Paper Company; J. C. Sanburn, Strathmore Paper Company, Woronoco; L. W. Shattuck, Strathmore Paper Company; A. W. Southard, American Writing Paper Company; L. B. Tucker, Crane & Co., Dalton; Philip Wilhelmi, American Writing Paper Company; F. H. Willemain, American Writing Paper Company; and L. M. Yoerg, American Writing Paper Company.

Brace Bennitt Addresses Paper Salesmen

There was an excellent attendance of members and guests at the regular weekly luncheon and meeting of the Eastern Division of the Salesmen's Association of the Paper Industry, held on Monday last at the Hotel Roosevelt, New York. Brace Bennitt, of the National Association of Credit Men, who was the guest speaker, discussed prevailing credit conditions in the paper industry in an interesting and informative manner and was accorded a rising vote of thanks at the close of his address.

A large attendance is anticipated at the next meeting, which will be held on Monday, December 19, at the usual time and place, to greet Arthur H. Chamberlain, executive secretary of the National Paper Trade Association of the United States, who will be the guest speaker, and who will undoubtedly discuss the problems of the manufacturers and the merchants in an authoritative manner.

Controlled Beating Insures Uniform Quality and Consistent Profits . . .



THE new B & L Micro-Projector gives you a simple means of quick, constant and accurate control of the beating process. One man or a group can see in the microscopic enlargement of the sample the exact distribution, length and amount of "brooming" of the fibres.

No other method of evaluation gives so much information so quickly. When you actually **see** the condition of the beaten stock, guesswork is eliminated. That's the kind of control that lowers mill overhead, that puts certainty into the beating process and safeguards profits with a consistently uniform paper.

This B & L Micro-Projector is now in profitable use in many leading paper mills. Built ruggedly to stand constant use and **stay in adjustment.** Easily portable . . . use it in the "lab," beater room or offices at will. The operation is simple. Reliable results can be secured by anyone with a knowledge of fibre microscope. The price on this paper mill model is attractive. Clip the coupon to your letterhead and mail today for detailed information. You'll find it interesting.

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OPTHALMIC APPARATUS ● SCIENTIFIC INSTRUMENTS

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Kingsport, Tenn.—The Tennessee-Eastman Corporation, manufacturer of cellulose rayon products, has work under way on an expansion and improvement program to provide for large increase in present production. Work will include the erection of two new main units, eight-story and seven-story, respectively, as well as new box manufacturing plant, pumping plant and other operating structures. Company is reported to be arranging for the manufacture of a new plastic cellulose, to be used in connection with production of shatter-proof glass, and portion of one of new main units will be given over to this service. The entire program is estimated to cost over $1,500,000, with equipment and is scheduled for completion in 1933. Company engineering department is in charge. The company is affiliated with the Eastman Kodak Company, Kodak Park, Rochester, N. Y.

New York, N. Y.—Green, Low & Dolge, Inc., 175 Varick street, wholesale paper, has arranged for a change of company name to the Green & Low Paper Company.

Newport News, Va.—The Virginia Paper Box Company, Newport News, manufacturer of paper boxes and containers, is planning to resume operations at local plant early in January, following a shut-down for several years. It is understood that close to normal working quota will be employed.

St. Paul, Minn.—The Minnesota Mining and Manufacturing Company, 791 Forest street, manufacturer of sandpaper and other abrasive paper stocks, has superstructure under way for its proposed new additions, recently referred to in these columns, and will push the program to completion. Work will consist of second and third story additions to Mills Nos. 2 and 3, each about 46 x 152 feet. Awards for brick, roofing, sheet metal work, etc. are being let. General contract was recently secured by William M. Murphy & Son, Pioneer Building, St. Paul. Entire project will cost close to $40,000. Increased production will be carried out as soon as the additions are ready for occupancy. J. E. Cable is secretary. Toltz, King & Day, Inc., Builders' Exchange Building, St. Paul, is architect and engineer.

Lee, Mass.—Eaton, Dikeman Company, Lee, manufacturer of blotting papers and kindred paper, is said to be arranging early rebuilding of portion of mill, including boiler plant and other units, recently destroyed by fire, with loss reported close to $200,000, exclusive of stock. In connection with reconstruction, it is understood that the company will carry out a modernization program.

Crichton, Ala.—The Mobile Paper Mill Company, recently organized to take over the local plant of the Mobile Paper Mills, has begun operations at the plant, following a shut-down of about 15 months. The new organization will specialize in the production of paperboard specialties, as well as allied paper goods, and will give employment to a sizable working force. R. E. Hartman, Tuscaloosa, Ala., heads the new company.

New York, N. Y.—I. Fenster & Sons, Inc., has been organized with capital of $10,000, to take over and succeed to I. Fenster & Sons, 42 Bond street, manufacturers of paper boxes and containers. The new company is headed by Harry, Alexander and Robert Fenster.

Rochester, N. Y.—The Haloid Company, 6 Haloid street, manufacturer of photographic papers, etc., has declared a cash wage dividend for employees, payable December 15. It is the eighth annual dividend of this character paid by the company, the individual payments being computed on the basis of the weekly wage of each employee with relation to the profits of the company for the year.

Monroe, Mich.—Quick action on the part of the employees of the River Raisin Paper Company, Monroe, prevented a fire loss at the mill recently, when sparks from the ventilating system caused a slight fire. It is understood that the loss was slight.

New York, N. Y.—The J. E. Linde Paper Company, 84 Beekman street, has arranged for a change in company capitalization from $1,250,000 to $750,000.

Old Hickory, Tenn.—Employees at the mills of the duPont Rayon Company, Old Hickory, manufacturer of cellulose rayon products, an interest of E. I. duPont deNemours & Co., Wilmington, Del., have established a new world's record for industrial safety. The workers have reached close to 10,000,000 exposure hours without a major injury to any operative. The duPont Cellophane Company, an affiliated interest, with adjoining local mill, is also developing a high record for plant safety.

Rochester, N. Y.—The Wax-Rite Products Company, Inc., care of Myer Miller, 31 Exchange street, representative, recently formed by local interests with a capital of 100 shares of stock, no par value, is said to be planning operation of a local processing plant for the manufacture of waxed paper products of various kinds.

Indianapolis, Ind.—The Brown Paper Goods Company, 900 West Lake street, Chicago, Ill., an Illinois corporation, has filed notice of organization in Indiana, securing permission to operate in that state for the manufacture of paper products of various kinds.

Milwaukee, Wis.—The Western States Envelope Company, 1616 West Pierce street, is pushing work on new addition to paper converting plant, recently noted in these columns, and proposes to have unit ready for service at earliest date. It will be two-story, 71 x 109 feet, reported to cost over $40,000, with equipment. James B. Cowper is superintendent in charge of erection.

What good is HARD RUBBER here?

Get the roll that is CUSHION Clear to the Core

THE pictures show the difference. One, the ordinary roll, has a cover composed of two kinds of rubber; an inner strip of hard rubber, an outer one of cushion rubber. The other, a Goodrich "Vulcalock," has *cushion rubber clear to the metal core.*

The hard rubber in the ordinary roll is *dead* rubber . . . useful only to the *manufacturer* of the roll. Without it, he cannot vulcanize the cushion to the core. He must have a base of hard rubber. You, on the other hand, want *cushion*. Why pay for hard rubber that is useless to you?

When you buy this hard rubber base roll, you sacrifice cushion . . . you lose many months of wear. You are paying for a manufacturer's compromise.

You pay again when you re-cover. The hard rubber must be ripped off . . . the metal re-rough-threaded. This means a loss of metal which must be replaced with extra rubber to make up the difference in diameter. Every time you re-cover, you pay for that extra rubber.

The all-cushion roll, the "Vulcalock" roll, costs no more than the hard rubber base roll. The 100% cushion rubber cover returns 100 cents on every dollar spent for it. It gives you more actual cushion . . . many months of extra wear. It can be worn down as close to the metal as to the hard rubber layer in the ordinary roll. At re-covering time there is no re-rough-threading to be done.

Never is there any need for tampering with the rubber formula in order to vulcanize effectively two different kinds of rubber at the same time. The cover of the "Vulcalock" roll can be compounded exactly to meet your individual requirements.

For further details of the "Vulcalock" method and quotations on specific jobs, write The B. F. Goodrich Rubber Company, Akron, Ohio.

The cover of this roll is live rubber clear down to the metal core. It's a Goodrich roll, covered by the "Vulcalock" process, which bonds cushion rubber directly to metal with no hard rubber base. The adhesion exceeds 500 lbs. to the square inch, virtually an integral union.

B. F. Goodrich

VULCALOCK PAPER MILL ROLLS

PAPER TRADE JOURNAL
ESTABLISHED 1872

Published at 34 North Crystal St., East Stroudsburg, Pa. Executive and Editorial Offices, 15 West 47th St., New York, N. Y.

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Price, Per Copy, 10 Cents — United States, Per Annum, $4.00
Canada, including tax, $7.50; Foreign Countries in Postal Union, $6.00

Member Audit Bureau of Circulations

Vol. XCV New York, December 15, 1932 No. 24

COMING EVENTS

American Paper and Pulp Association, Fifty-Sixth Annual Convention and Meeting, Pennsylvania Hotel, New York, February 13-16. Luncheon, Thursday, February 16.

National Paper Trade Association of the United States, Convention, Pennsylvania Hotel, New York, February 13-15. Luncheon, Wednesday, February 15.

Technical Association of the Paper Industry, Convention, Pennsylvania Hotel, New York, February 13-16. Luncheons, Wednesday, February 15 and Thursday, February 16.

Salesmen's Association of the Paper Industry, Annual Meeting, Pennsylvania Hotel, New York, Tuesday, February 14. Luncheon, Tuesday, February 14.

New York Association of Dealers in Paper Mills' Supplies, Annual Banquet, Hotel Commodore, New York, Wednesday, February 14.

Canadian Pulp and Paper Association, Annual Meeting, Montreal, January 25-27.

EUROPEAN PAPER REMEDIES

Various remedies being tried by the European paper industry to meet prevailing adverse conditions include cartels, educational and advertising campaigns, special organizations to regulate production and exports, and appeals urging use of "home" products, according to reports received in the Department of Commerce.

The German paper industry is seeking to improve its position by further cartelization and recent discussion among the leading manufacturers are said to have brought about a rise of 5 per cent in the price of writing and printing papers and 10 to 15 per cent in that of wrapping paper, according to reports from Consul Sydney B. Redecker, Frankfort-on-Main.

Proposals have also been put forward in Germany to regulate production by a reduction in the number of working days and to require manufacturers to adhere to their particular lines instead of entering other spheres of production.

An extensive educational and advertising campaign has been undertaken by the Czechoslovak paper and board cartels, designed to increase the domestic demand for paper and paper products, especially wrapping paper and containers for foodstuffs, states a report from Consul A. W. Guthrie, Prague.

Demonstrations of the sanitary handling of foodstuffs, especially milk and dairy products, are being carried on and it is understood that special instructions are soon to be issued by the Ministry of Public Health prohibiting the sale of milk from open containers and requiring the use of glass or paper bottles. The instructions also require the wrapping of butter and cheese in grease proof or parchment papers, it is stated.

Kraft paper manufacturers of Norway, Sweden and Finland have reached an agreement for regulating production and export, according to reports from Commercial Attache Marquard H. Lund, Oslo. The total production involved is approximately 250,000 metric tons of which 40,000 tons has been allotted to Norway, 180,000 tons to Sweden and 30,000 tons to Finland. The new combination will operate under the name "Scankraft" and it is hoped that the decision of the Scandinavian kraft producers to cooperate will automatically strengthen the market situation.

Swedish and Finnish kraft pulp manufacturers have also established a special organization to promote the use of fiber containers throughout Europe. The considerable increase in the production of sulphate pulp during recent years, particularly in Sweden and Finland, has made it necessary to find new uses for this product and it is thought that a wider market for fiber shipping containers would offer a solution to the problem.

An appeal to Spanish newspapers to purchase paper of domestic manufacture has recently been published in Madrid newspapers, according to the Commercial Attache at Madrid. The newspapers state that Spanish mills are being closed for lack of orders and that national labor and industry merit the purchasing of products manufactured in Spain. It is further pointed out that Spanish paper prices are no higher than those of the imported product and that the quality is better.

SHORT CUTS

Speed and yet more speed seems to be the goal of the times, and the short cut a thing to be hailed with shouts of joy. With this there can be no quarrel so long as high standards are maintained, for it has ever been the desire of man to achieve perfection with the least effort.

The appearance this month of the bright little penny Christmas seals is a potent reminder of the short cuts in fighting disease that science has discovered bit by bit after laborious research and many heartbreaking setbacks; the priceless knowledge of how to protect health. Those who ignore that knowledge must pay the price. In the case of tuberculosis, which kills more persons between 15 and 45 than any other disease, this involves months and sometimes years in bed, with the consequent loss of income, expense of treatment, hardship and worry to one's family, and the knowledge that after recovery all violent exercise and heavy work are taboo under penalty of a second breakdown.

But Christmas seals bring with them a message of hope—the knowledge that tuberculosis is both preventable and curable; that it can be detected in children years be-

fore it becomes active and protection provided for them; that the research committee of the National Tuberculosis Association continues to search diligently for a specific cure; and that throughout the country there are 2,084 affiliated tuberculosis associations fighting the disease.

That is the message of the penny Christmas seals. They are sold annually between Thanksgiving and Christmas by the tuberculosis associations to finance their all-year-round work. For the past twenty-five years they have been forcing back the frontiers of tuberculosis so successfully that today the tuberculosis death rate has been reduced two-thirds. Through their efforts many sanatoria, preventoria, clinics, nursing service, health laws, and other forms of prevention, diagnosis, and treatment have been established throughout the length and breadth of the country.

The Christmas seal that carries the double barred cross, which is the symbol of tuberculosis work, will come to you this month as a silent messenger pleading for your support and assuring you that it will work not only for those stricken by the disease, but also for your protection. Your answer should be "Yes."

I.P.'s Third Quarter Earnings

International Paper and Power Company reports that consolidated gross sales in the third quarter were $30,249,610 compared with $37,608,195 in the third quarter of last year; net revenue including other income and available for interest, depreciation, etc., was $8,249,605 against $11,326,140; and balance deducted from surplus was $3,001,567 compared with $264,297 added to surplus in the third quarter of last year.

For the first nine months of this year consolidated gross sales were $97,376,379 against $109,102,735 in the corresponding period of last year; net revenue including other income and available for interest, depreciation, etc., was $29,164,555 compared with $32,905,725; and balance deducted from surplus was $5,257,371 against $1,871,294 added to surplus in the first nine months a year ago.

Archibald R. Graustein, president of the company, comments as follows on the earnings statement: "Operations for the third quarter resulted in a loss after all charges of $3,001,567 as compared with a loss of $1,856,236 for the second quarter and a profit of $264,297 for the third quarter of 1931. The increased loss as compared to the second quarter reflects usual seasonal declines and further reductions in prices for news print, kraft and some other grades of paper.

"In recent months operations of power properties have been showing improvement over 1931 and there have been some signs of stabilization in consumption of paper products following the sharp declines earlier in the year. With both paper prices and sales volume, however, still far below normal, operations for the fourth quarter will also result in a loss in spite of seasonal improvement. Since January 1, 1932 the company has met all operating expenses, interest charges and sinking fund obligations and has been able to make a net reduction of over $5,000,000 in total consolidated funded and floating debt."

Gair Plant on Five Day Schedule

[FROM OUR REGULAR CORRESPONDENT]

HAVERHILL, Mass., December 12, 1932—The plant of the Robert Gair Company here is operating on the five-day-a-week schedule.

Use More Paper

461 E. 10th Street, N., Portland, Ore.

Editor, PAPER TRADE JOURNAL:

There are in the United States about one thousand paper mills employing in all their operations approximately nine hundred and fifty thousand men. Of this number what percentage have any interest in, or give any thought to, paper after their days work is through? How many give any thought at all during their working hours as to the ultimate result of their labors.

I would venture to say that there are not more than three per cent of the employees of an average paper mill who give any thought to paper outside of the mill and these only to examine in regard to structure and finish. The average man or woman seeing or handling paper in rolls or sheets every day, gives it no association with their daily newspapers, monthly magazines, or books, it is just human nature. They no doubt take an interest in their particular job which they perform everyday, reading lots of available literature concerning it, but their job, which may be anything from repairman to stenographer, is quite remote from paper itself.

Suppose the managers of these hundreds of paper mills should start a campaign to make their employees "paper minded" with large signs about the mill reminding them to "use more paper". It would not be long until the employee as well as his family realized that it was a fallacy for them to cut down on their daily newspaper or stop their weekly or monthly magazine. It would soon become a habit for them to use more paper in everything, from having the grocer use more paper bags to using two or three paper napkins in the restaurant or lunch room. Then too, new ideas may be brought in offering new uses for paper and paper specialties.

Another phase of the industry not to be overlooked is that of the allied interests which depend either entirely or in part on the paper trade. I think that the manufacturers of felts, wires, and paper mill machinery, would be more than willing to promote a campaign of such mutual advantage, in their factories.

We all realize that the most important issue facing the paper manufacturer today is that of finding more outlets for his paper and I think that here we have a source which can easily be taken advantage of with a very small amount of effort. Let's get together now and start a nation-wide campaign to "Use More Paper."

KENNETH E. MACAULAY.

Oil Resisting Rubber Belting

Rubber belting, which resists chemicals and oils, the first product of its kind perfected in the rubber industry, is announced by The B. F. Goodrich Company, Akron, Ohio.

Patent covering the new type belting was issued to Goodrich by the United States Patent Office early in November.

For years experiments were conducted to discover a process to protect rubber belts from the destructive action of acids, alkalies and oils before the Goodrich method was developed in the Goodrich laboratories.

The new belting has given satisfactory service after complete immersion in oil for several days, while ordinary belting will last only one-third as long when subjected to similar exposure, according to Goodrich engineers.

B. S. Taylor, manager of Material development for the Goodrich processing division, is the inventor of the new belting which will shortly be marketed by the Akron company.

CHLORINE

● Industrial users of chlorine appreciate the important part modern container equipment plays both in safeguarding the original purity of the product and in guaranteeing satisfactory service.

At the Mathieson plant, rigid inspection of all equipment, from single cylinders to 30-ton tank cars, doesn't terminate when the usual safety requirements are met. No container of Mathieson Chlorine is sent on its journey to the consumer until careful testing assures that all valves, threads and other parts are clean, accurately placed and in perfect working condition.

This type of chlorine handling equipment is placed at your service the moment you specify Mathieson Chlorine. Behind it is the reputation of one of the oldest and largest manufacturers of chlorine in the world.

The* MATHIESON ALKALI WORKS *(Inc.)
250 Park Avenue, New York, N. Y.

Soda Ash . . . . Liquid Chlorine . . . . Bicarbonate of Soda . . . . HTH (Hypochlorite) . . . . Caustic Soda . . . . Bleaching Powder . . . . Ammonia, Anhydrous and Aqua . . . . PURITE (Fused Soda Ash) . . . . Solid Carbon Dioxide

Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

The Design and Care of Pulp Strength Testing Equipment*

By Paul Boronow[1]

It is often the most elementary factors governing a procedure which are overlooked in repeated routine and it will be necessary for us to rediscover these fundamental considerations and apply them to the design of the equipment used. When we speak of pulp strength testing equipment we especially refer to the papermaking equipment used in the test.

Remembering that good technical service requires that results shall be prompt, in addition to being accurate, it seems that this consideration should to some extent influence the design of pulp strength testing equipment. In our opinion the equipment used should be such that the test in its simplest form, namely progressive freeness and Mullen in duplicate, can be completed in approximately 1½ hours. This is obviously impossible if the equipment demands a procedure such as to make the test a long drawn out affair.

The increasing emphasis as well as the controversial opinions on the design and manipulation of this equipment can be seen from the accumulation of literature on the subject. We, as manufacturers, have noted and followed some of these opinions by changing our design to conform with them but we have gradually realized that a change requested by one man might very well be regarded by another as a costly nuisance. Finally, therefore, we have sought improvement only along very conservative lines, retaining the greatest simplicity possible along with the utmost possible uniformity of construction. We have also sought to make the appearance of the equipment attractive enough to reward decent care and so make possible greater accuracy on the operator's part.

We have learned by repeated tests using our equipment, that checks accurate to ± 2 per cent are possible. But the pulp strength test which is really a sequence of tests each with its own peculiar hazards must be rigidly standardized not only in design of equipment but in each manipulation in the procedure from beginning to end. To clarify what will follow, to those of us who may not be familiar with the details of the pulp strength test it would be well to present at this time what we would regard as a typical and acceptable procedure. It is designated for Bleached and Unbleached Sulphite or Bleached Alkaline Pulps, using monel roll and bedplate.

Bleached and Unbleached Sulphite and Bleached Alkaline Pulps

Preparation of Sample: *Wet* samples may be torn up to about the size of a half dollar and disintegrated for 5 minutes in the beater with the bed plate down. Dry samples should be *soaked for an hour* and then treated as above.

Amount of Sample: 400 grams oven dry.

Amount of Water: 20.6 liters. Consistency 1.9 per cent.

Beating Temperature: 25 deg. C.

Weight on Bed Plate: 14 pounds in addition to counterpoise.

Weight of Test Sheets: 42.2 pounds. Basis 25 × 40 — 500. Use 76 cc. in duplicate of slush stock from the beater. The weight of the sheet trimmed to 5 x 5 inches should be .95 ± .02 grams.

Dilution & Formation of Sheet: The 76 cc. of slush stock are added to 2.5 liters of water and poured back and forth *4 times* from suitable metal cans, and added to the sheet mould containing such an amount of water that the addition of the 2.5 liters fills it to within one inch from the top. The water should be entirely drained from the standpipe.

Couching: The couch roll is used with damp felts which have been previously passed through a wringer. The felt is laid over the sheet so that the thumbs may hold one edge of the felt to the roll and the felt and adhering sheet is then rolled up on the couch roll and removed.

Pressing: The wet sheet and felt is laid on the hydraulic press, the sheet is covered with a second damp felt and pressed for exactly 1 minute at 100 pounds.

Drying: The sheet is dried on a steam heated hot plate having the inside of the cover wrapped with one thickness of canton flannel or cotton. The cover is let down and immediately raised to permit steam to escape, the sheet turned over and the procedure repeated till the sheet is dry. The sheet is then trimmed to 5 x 5 inches.

Oven Drying: The sheet should be dried to constant weight in the oven before testing.

Freeness: A sample of slush stock is taken from the beater. Where the Schopper Tester is used 105 cc. should be taken and diluted to 1 liter at 20 deg. C.

General: Because the quantity of water used is important, it is of great advantage to have means of adding the required amount quickly and accurately. A *tank* is suggested mounted above the beater and having an over-

* Presented at the November 15, 1932 meeting of the Lake States Section, Technical Association of the Pulp and Paper Industry, Appleton, Wis.

[1] Engineer, Valley Iron Works, Appleton, Wis.

flow at such a point that when full the tank will deliver the required amount of water.

When the stock has been disintegrated by circulating with the bed plate down for 5 minutes, duplicate samples for sheet making and one sample for freeness are taken, the counterpoise and additional weights are applied and the test begun. At 15 minute intervals thereafter samples for duplicate sheets and single freeness are taken. Where only Mullen and freeness are desired, the results can be obtained and plotted as the test proceeds. Where fold, tensile, etc. are required in addition, more sheets are necessary.

For unbleached alkaline pulps the procedure may be identical except that the amount of stock is changed to 360 grams b.d., the amount of water to 24.64 liters, and the weight on the bed plate 32 pounds in addition to the counterpoise. The amounts of stock for sheets and freeness become 100 cc. and 140 cc. respectively.

Now, we all know that two mills, or even the same mill at different times, may report the same pulp as 100 per cent and then as 150 per cent. The laboratory may or may not recognize the reasons for the discrepancy but usually the mill does not and the reaction reflects unfavorably on the pulp strength test and on technical control as a whole. The discrepancy may lie in the procedure or the operator's technique, but if these are found to be sound we must look to the equipment for the error. Let us examine the equipment then, in the order it is used in the test.

The standard for the TAPPI beater method has been for some time past, the 1½ pound Niagara beater. But whether the 1½ pound, 5 pound or 25 pound Valley beater is used it is the same in what follows. They all have the controlled bed plate, sealed by a rubber diaphragm under the beater and an annular space for clearance around the bed plate to permit the latter to move freely up and down. When the beater is dumped the chamber remains full of stock and for this reason an opening is provided for flushing water. It is essential that this fitting be connected up and used. After the beater is emptied at the end of the test, a valve on this connection should be opened and the chamber flushed thoroughly at the same time working the bedplate up and down till all stock is ejected.

If pulp is allowed to accumulate and wedge in the bed plate clearance it is likely to cushion the pressure of the weighted bed plate off the roll and instead of 14 pounds on the lever arm we are getting the effect of much less. Therefore, instead of coming up to strength in 45 minutes or so the time may be doubled indicating a slower beating pulp. In a beater where pulp has accumulated and cannot be dislodged by flushing, it is a simple matter to remove the cap screws holding the diaphragm clamp, loosen the diaphragm and remove the pulp found in the clearance. Then when the diaphragm has been replaced, a counterpoise should be made which just balances the bed plate and which can be used as a check in the future. Our present beaters are equipped in this manner at our plant and we have added a second flushing opening in the bed plate clearance. We have by the way tried placing the diaphragm flush with the top of the bed plate but this has resulted in a costly makeshift which has its own disadvantages. Any other change in this direction would involve a departure from the present standard tub shape and would tend to make present equipment obsolete, in the event it were accepted at all. We, therefore, *recommend* that due attention be directed to clearing the bed plate chamber with the means provided. Two years ago *we adopted ball bearings* at the *roll journals, and* at the *fulcrum* of the *bed plate* to secure a permanent and exact alignment of bed plate and roll. This has also removed any sluggishness of balance accruing from wear at these points.

Tackle

Although the pulp testing committee of TAPPI is in favor of Monel Metal for the roll and bed plate we have not as yet been able to adopt any particular tackle as standard for all pulps. In many cases where we have supplied Monel the purchaser has subsequently asked us to substitute bronze, or stainless steel. We have tried all three in the Southern kraft mills and from mill reports, found that stainless steel gave the best results. We have started to investigate the relative hydrating qualities of these metals in our own laboratory but due to interruptions the work is not yet completed and results will have to be reported at a future meeting.

Again for the sake of greater uniformity our old method of casting fly bars integral with the roll has been superseded by the adoption of an accurately turned and balanced cast iron billet in which slots are milled to receive inserted fly bars secured in the same manner as a regular commercial size roll. We have reason to believe that no perceptible error was occasioned by the former design, but the new design represents a closer approach to detailed uniformity of construction so that uniform procedure can give uniform results.

Grinding In

When a new bed plate or roll is installed it should be ground in by slowly sprinkling about a handful of 60 to 80 grain emery dust into 1½ per cent stock and circulating for 15 to 20 minutes with 20 pounds on the bed plate lever arm. In case of undue wear on the babbitt bearings of the older beaters regrinding in may be found necessary at intervals. The ball bearing beater however should maintain constant alignment of bed plate and roll and regrinding should be necessary only because of accidents of some kind.

The Sheet Mould

Turning our attention now to the sheet mould, it does not appear that any appreciable error is introduced by sheet mould design if a few important considerations are observed. The wire frame must be rigid and hold the wire absolutely level and also be heavy enough to stand a certain amount of abuse. The size and number of apertures in the wire frame must be sufficient to allow free drainage from the pulp. And this free drainage must not be impeded by any undue contraction of the sheet mould below the wire or in the standpipe drain. Wherever possible we favor a free discharge from the standpipe to a drainpit on the floor rather than direct connection to drainpipes of unknown siphon action. Still on the subject of drainage, there should be sufficient backing between the facing wire and the wire frame to permit all areas of the sheet to drain equally, otherwise a spotty sheet is formed with consequent error.

Another factor to consider is the ease with which the sheet can be couched. It has been recently demonstrated that the Valley sheet mould makes a level sheet of uniformly high strength characteristics and the possibility of damage or spoilage in couching has been reduced to a minimum. Our new deckle cover makes a close, well knit edge which is readily couched. Although from the point of view of the machine shop we would prefer to make a round sheet mould, the square design seems dictated as a precaution against swirling so we have retained the square shape. To supply different requirements these sheet moulds are made in sizes from 6 x 6 to 17 x 17 inches. Any sheet mould having the essential requirements given above and used with a rigidly standardized procedure,

covering dilution and uniform mixing of the sample, will give excellent results with a minimum expenditure of time. In the matter of the couching of the sheets there is much difference of opinion. From what has been offered so far, it seems that in any method employed the couching of a stubborn sheet is much a matter of skill and experience. We have however, modified the equipment to permit couching by the hydraulic press method, or the couch roll method. We stick to the couch roll and damp felts as the least troublesome.

The Hydraulic Press

Coming now to the hydraulic press, let us emphasize the importance of employing uniform pressing methods. I think we are all familiar with the work of the late E. P. Cameron at the Canadian Forest Products Laboratories in which he showed how the Mullen strength of hand sheets increased rapidly with the pressure applied, up to about 200 pounds per square inch. Therefore haphazard methods of pressing are a poor risk. A press that through accident or otherwise has become distorted in either top or bottom section will not exert a uniform pressure over the sheet and with a gauge pressure of 100 pounds it might be that the portion of the sheet trimmed for the Mullen Test has received onoly 80 pounds pressure. The result is an abnormally low test. We have found this to occur on our own presses, which subsequently led to an investigation of the whole unit and we found that while we had a machine that was quickly operated and quickly accessible, it required periodic attention to keep it in good condition.

We have, therefore, completely redesigned the hydraulic press to give accessibility, flexibility, and freedom from mechanical upkeep. We have adopted the screw piston type of pump and have mounted it under the press. The former hinged cover was so handy that we decided to keep it, while incorporating an adjustable feature which permits varying the height of the cover to accommodate one or more sheets, or to permit both wire frame and sheet to be inserted for couching by the hydraulic press method. The hydraulic press must be built much more substantially than the load would indicate and sections are designed for minimum deflection under maximum allowable stress.

Sheet Drying

The drying of the pressed sheet comes next and here the main requirements are for constant temperature, under load, and uniform heat distribution. Where steam is available the steam hot plate is about the most convenient and acceptable device for securing these requirements. A loosely hinged cover wrapped with Canton flannel or cotton provides a uniform pressure to hold the sheet against the face of the hot plate. To facilitate the escape of steam from the drying sheet we have experimented with different designs of the cover including the drilling of holes and also serrating the bottom face of the cover and covering this with a finely perforated metal sheet but such innovations proved of doubtful merit and the speed of drying still remained a function of the temperature.

For the rapid execution of the pulp strength test there seems no alternative but to test the sheets bone dry, for the sake of uniformity. For rapid bone dry weighing of test sheets and for any other hot weighing around the laboratory we have supplied our so called drying oven, consisting of a chemical beam balance with its left hand scale pan enclosed in a small oven. But more suitable to the presence of draft cupboards, ventilators, and the corrosive atmosphere of the laboratory or mill, is our more recently designed chainomatic drying oven. A high grade chainomatic balance, enclosed in the usual glass and wood case is substantially mounted on a heavy transite oven equipped for a maximum of 130 deg. C. Readings from zero to 1 gram can be made directly from a vernier scale, although the balance has a capacity of over 100 grams.

This oven also lends itself very well to quick moisture determinations on paper and other samples. For paper-machine control a strip across the width of the machine is taken and its weight quickly recorded using the upper left hand scale pan; it is then transferred to the lower pan inside the oven and allowed to dry to constant weight, requiring about 15 minutes, for a sample of approximately 10 grams weight. The loss is calculated to percentage moisture and because of the great rapidity with which paper gains or loses moisture, such a method seems quicker and more accurate than to try to trim the sample to a standard weight before weighing and drying.

Summary

Summarizing briefly we have outlined the fundamental requirements upon which our pulp strength testing equipment is based. We have also presented a specimen procedure which has been worked out for this equipment. The adoption of this procedure is neither urged nor suggested and it is given merely to clarify subsequent statements. To the chemist experienced in conducting the pulp strength test we have presented little that is new or interesting. But if to the beginner or to the man with limited time for pulp strength testing we have been able to suggest certain precautions to avoid the more obscure sources of error in the use of the equipment, this paper will have accomplished its purpose.

Motorized Speed Reducers

Motorized Speed Reducers of exceptionally high efficiency, capable of employing nearly any type of motor have been placed on the market by the Louis Allis Company, Milwaukee. The motor and speed reducer are combined into a single, compact, self-contained unit which makes an attractive, easily-mounted, slow-speed drive for many types of industrial machinery. Ratings available are ¾ to 75 hp. with output speeds 4 to 400 r.p.m.

Efficiencies as high as 97 per cent or more are made possible by simple design which reduces to a minimum the number of rotating and wearing parts. High-grade precision gears and pinions with high-grade over-sized ball bearings throughout insure accuracy, quiet operation, and long life.

Built in styles accommodating nearly any type of motor, these units can be furnished with motor characteristics and style of mounting best suited to each application. The integral style shown in the attached photo, in which the endbell is removed and the motor close-coupled to the gear casing, is most common where an open motor or enclosed non-ventilated motor is employed. The flexible style, in which the entire motor without any change is mounted on the gear casing, is furnished where conditions require an explosion-proof, enclosed fan-cooled, splash-proof, or other protected type of motor. Either style can be furnished to provide normal starting torque, high starting torque, high slip, adjustable speed, multi-speed, or other desirable characteristics that can be built into separate motors.

Latex Fibre Addition Nears Completion

[FROM OUR REGULAR CORRESPONDENT]

BEAVER FALLS, N. Y., December 12, 1932.—Construction of the new warehouse addition by the newly organized Latex Fibre Industries, Inc., is nearing completion and will provide a considerable enlargement of storage capacity. The structure will provide several hundred square feet of space and is to be used immediately upon its completion.

The Characterization of Pulps and Stuffs*

A Suggested System Based on Use Requirements

By P. K. Baird[1] and R. H. Doughty[2]

Preface

That present knowledge is inadequate for establishing any complete system of characterization or specification of pulps and stuffs is well recognized in the paper industry. However, certain data relating to the subject are available, methods for pulp evaluation and analysis are at hand, and since a systematic attack seems more hopeful of progress than unorganized effort, the available material has been considered and is submitted here as a possible starting point for the development of a scheme for characterizing or specifying the required properties in a pulp or stuff in terms of its requirements of use.

Taking into consideration the fact that the Technical Association is now engaged in compiling a manual of standards, attention has been directed toward (1) an analysis of pulp and stuff properties which may serve in their characterization, (2) an outline of available methods of test and (3) a classification of these test methods with a suggested decimal scheme for their grouping under logical and proper headings.

Introduction

Cellulose pulps are utilized for the production of all grades of papers and paper boards, insulating and wall boards, moulded products, and chemical products such as rayon and cellophane. Each of these products is put to a variety of uses requiring special properties; each product also requires special properties in the pulp or stuff used in its production. Knowledge of these use requirements is the first step in setting up exact specifications for the materials; the subsequent steps are selection or development of methods for measuring the significant properties, and the setting of suitable limiting values for these properties. A start in this direction has been made for paper,[3] and similar work with pulps should be done simultaneously.

A start may be made by delineating the properties of pulps, and selecting those properties which are deemed essential for each particular use, in the order of their importance. Some discussion of methods for evaluating pulps and stuffs is necessary in this connection. The classification of pulps on the basis of their use requirements is a separate subject.

Pulp and Stuff Properties

A *pulp* in the paper-making sense is the basic raw material from which any of the products already listed is made. A *stuff* is this raw material processed and ready to pass to the paper-making or equivalent operation. A differentiation must at once be made between the properties of pulps or stuffs as such in suspension or mat form, and the properties of sheets made from them. Up to the present time pulps have been evaluated largely through the medium of test sheets—a miniature paper-making procedure. Ideally, it should be possible to evaluate pulps without recourse to sheet production inasmuch as this superimposes the variables of a complicated and none too well understood manufacturing operation upon the characteristic properties of the material itself.[4] This is particularly true of the physical properties of the pulp, as consideration will show.

Basic Pulp Properties

The least number of elemental properties that can conceivably give rise to all the measurable properties of a pulp or stuff may be termed basic. These *basic properties* are the *material*, the *dimensions*, and *structure* of the fibers. The material is best described by the constitution of the structural units making up the fibers, and the impurities within the fibers or in the pulp. The nonfibrous material or impurities are such extraneous substances as resin, shives, dirt, and chemical residues. The dimensions and structure are more or less self evident properties.

It seems probable that these three properties will eventually, after much basic data has been obtained, serve to define and specify a pulp completely and exactly. From them are derived the various qualities of strength, stiffness, bleachability, color, opacity, and other properties, which, when modified by processing and sheet structure, impart corresponding properties to the sheet. Although they are all under investigation no really satisfactory methods of measuring these basic properties have so far been established; the same may be said of many of the derived properties. In general, however, the derived properties are more readily measured and studied, and it is upon them that the evaluation and specification of pulps for various uses will no doubt be based for some time to come. The group of derived properties especially serviceable in this connection, which is now used either qualitatively or quantitatively for such specifications, may be termed *technical properties.*

Technical Properties

The following twenty-one technical properties are listed here as of most importance in characterizing pulps, together with comments on their significance particularly as related to the requirements of use: *Bleachability, freeness, fiber dimensions, color, dirt, absorbency, wetness,* (hydration), *opacity, tensile strength, folding endurance, bursting strength, tearing strength, stiffness, beatability, copper number, alpha cellulose, disperse viscosity, penetration, pitch content, acidity* and *permanence.*

Bleachability of pulps can be determined by several general methods, namely, actual bleaching with hypochlorite, free chlorine or bromine absorption, permanganate consumption and others. The available methods are not very satisfactory for general use, that is, for all types of pulps or processes. The values obtained, except for an actual small-scale bleach, are not directly applicable to plant control but must be correlated to each set of conditions as governed by materials and processes. Bleachability is frequently a valuable index to other properties than bleached color but here also special circumstances

* Presented at the fall meeting of the Technical Association of the Pulp and Paper Industry, Holyoke, Mass., September 14-16, 1932.

[1] Member TAPPI; senior chemist, Forest Products Laboratory, Madison, Wis.

[2] Member TAPPI; assistant engineer, Forest Products Laboratory, Madison, Wis.

[3] Baird, P. K., Research in the Use Requirements of Paper. Paper Trade Journal, *93*, No. 14, 44-5 (Oct. 1, 1931).

[4] Heritage, C. C. Tech. Assoc. Papers *XII*, 22 (1930).

must be taken into account in interpretation of the test data.

Freeness is the drainage rate characteristic of a wet pulp mat observed under a special set of test conditions. Its significance lies in its value as indicating how a pulp will permit the drainage of water from its suspension on the forming wire of a paper machine. It is in all probability a compound value, influenced by the wetness, length, fibrillation, surface, and stiffness properties of fibers as well as the formation structure of the mat. Several instruments for measuring freeness, such as the Green, Williams, and Schopper-Riegler have had acceptance.

Fiber dimensions are the length, width or diameter, and shape or form of the wood fibers. The present available methods are the microscopic and the microprojector measurement for length and width. There are no specific methods available for shape or form criteria. Fiber dimensions are extremely difficult to express in quantitative terms. However, they are of much importance in their effects on formation, solid fraction, surface smoothness, strength, elasticity, and other sheet properties. Until recently it was generally believed that one requirement of use for strong papers was that the fibers must be long. In the light of recent developments, such as the researches of the TAPPI fellow at the Forest Products Laboratory, the importance of fiber length is indicated to be secondary to solid fraction as a strength producing component.

Color is second only to strength in its use importance in most papers. In some use industries, such as printing, decorating, and so forth, it is of first consideration, while in the wrapping and coarse paper grades color is given only secondary consideration as an essential quality. The test methods available for color are applied to mats or sheets of fibers and are for that reason not truly evaluative of the fibers themselves inasmuch as sheet density and optical considerations enter into the determination to a considerable extent. There are several good instruments available for determining color but unfortunately they are rather expensive. As specifications become more exact in the paper industry, however, these instruments are bound to come into more general use and the expenditure for their purchase will be fully justified.

Dirt in pulp is of special significance in high-grade papers. Its exclusion is very difficult and constitutes a major item of expense in pulp-mill operation. Several visual dirt count methods are available.

Absorbency is defined as the property of fibers which determines the amount of liquid that the material will take up at saturation. Another term describing the same phenomenon is retention. Absorbency of fibers is of much importance in towels, tissues, napkins, surgical dressing, and the like, where various liquids are to be absorbed. The proper amount of absorbency varies for various uses and can be controlled by sheet properties as well as fiber properties. The use of fibers of certain species is known to increase the absorbency of papers. The method and degree of cooking, as well as the physical and chemical processing, also affect this property.

There are several methods available for testing the absorbency of sheets but none yet developed for fibers as such. Until such a method is available the control of the absorbency of a sheet, which is partly due to sheet structure and partly to fiber properties, will be somewhat inaccurate. The control of absorbency of fibers by selection of raw materials, in the pulping processes and in fiber processing, would be made possible by this method.

Wetness of pulps is an accurate old term which has erroneously been replaced by the word "hydration." The wetness or degree of imbibition of water by a beaten pulp is of prime importance in determining the solid fraction of papers, which in turn affects most of the sheet properties. Varying degrees of wetness are needed according to the density (solid fraction), transparency, stiffness, porosity desired in the sheet. No entirely satisfactory method is yet available to determine this property although it is considered an element in the freeness test and much research is being directed toward evaluating it.

The *opacity* of pulp fibers is important. In printing and writing papers opacity must be high; in glassine it must be low. Pure cellulose, according to the best evidence, is highly transparent; the opacity of pulp fibers arises from their structure and from coloring matter which they may contain. Several methods for measuring the opacity of sheets are available; investigation using known optical methods should clarify the part taken by the opacity of the fibers themselves. For some purposes a complete transmission spectrum similar to the reflection spectrum of color analysis is desirable.

It has already been pointed out that what are generally called the *strength properties* of a pulp are in reality those of pulp sheets, not of pulp fibers, and are related to the latter in a complicated way involving the sheet structure. Since it is doubtful if the ultimate strengths of the fibers are ever developed in use, the customary tests may be considered here, bearing in mind the above condition. Tests should be compared on stuffs processed to the point required for the particular paper under consideration, and in general the simultaneous values of all strengths should be taken into account. Several "general strength factors," such as the Richter number,[4a] which do this fairly well under limited conditions have been proposed. Strength values vary so greatly with sheet structure, especially with solid fraction value, as pointed out later in connection with the tensile strength, that the lack of more general recognition of the importance of this factor is rather surprising.

Methods proposed for measurement of the *tensile strength* of the fibers by themselves have not so far proven successful. A sheet of paper which does not require at some point during its manufacturer a certain amount of tensile strengh is hardly conceivable. Methods for measuring the breaking length are well developed; this quantity is related to the tensile strength through the solid fraction value. Both tensile strength and breaking length vary so greatly with solid fraction that the latter value should be included in any reporting of such data. A truly accurate knowledge of sheet thickness would also be of value here. The actual load in pounds per inch of width that the sheet can support depends on the breaking length, or ratio of tensile strength to solid fraction, and on the ream weight.

The significance of the *folding endurance* might be more plain if the parts played by elementary tension, compression and shear phenomena in the sheet and in the fibers were known. The importance of this property for various classes of pulps is recognized, the methods of determination are standard, and a better understanding of the mechanism should show how best to develop this strength, especially the significance of the flexibility of the fibers themselves.

The *tearing strength* value of a pulp or fibers is also dependent on the sheet structure. Here again the importance of the property is recognized and there is a standard method of test, but a clarification of the mechanism is highly desirable so that the qualities in a pulp which

[4a] Richter, Erich. Evaluation of chemical pulp. Pulp and Paper Mag. Can. *28*, 439-40, 452, 454, 456, 458, 483-8 (1929); Paper Makers Mo. J. *68*, 275-80, 314-18, 355-6 (1930), see also idem, 404-7, 409; 436-40, 473-6.

produce tearing resistance in a paper can be intelligently developed and properly specified.

To consider the *bursting strength* of fibres leads to somewhat absurd results. The bursting strength of a sheet is apparently related to its tensile strength and elasticity. These properties of the fibers are unquestionably masked to a considerable degree by the structure of the sheet. The methods for measuring bursting strength are too well known to require comment.

The *stiffness* of wet pulp fibers may have a very important influence on the freeness and structure of the wet mat and also on the structure of the dry sheet. The stiffness of dry fibers no doubt has a bearing on the stiffness, the folding, and to a less extent the bursting and tearing qualities of the finished sheet. Methods have been proposed for these properties that seem to have given good results in use,[5] and the value of which could unquestionably be enhanced by further study.

The *beatability* of a pulp is one of its most important empirical properties. Beatability may be defined as the capacity to develop maximum strength, wetness, fibrillation, cutting, and other desirable qualities by beating with minimum expense (power and time input). An interesting means[6] of evaluating this quality involving a constant of the semilogarithmic freeness-time curve, and the strength at a certain freeness, has recently been suggested and should be further studied.

The *copper number* as a measure of degradation during bleaching and of the suitability of pulps for chemical uses or for permanent papers has been under consideration for many years. Methods of determination have been carefully, and to all appearances successfully, standardized. A silver number for the same purpose has been proposed.

The *alpha cellulose* value, like the copper number, has been studied so thoroughly that no comment seems necessary. That there is a basic difference in alpha celluloses from different sources has been definitely shown in ultracentrifuge studies on the molecular weight-particle size distribution properties of dispersed cellulose solutions.

The usefulness of *disperse viscosity* as a mesaure of pulp quality has been definitely established in certain limited fields. It is undoubtedly important in chemical utilization, being presumably the most sensitive measure of purification and bleaching degradation, as well as bearing a definite relation to strength properties in certain classes of pulps. The cuprammonium method is well standardized; a rapid xanthogenate method presented recently[7] does not appear to have received much attention.

Penetration is the rate of absorbency and can not be determined on fibers until a suitable fiber absorbency method is developed. Its significance is similar to absorbency factored for time.

Pitch content of fibers or pulp consists of saponifiable and non-saponifiable resins. Methods are available for the determinations of both. The use requirements of pulps show little if any need for pitch in pulps. It is an impurity causing much annoyance in papermaking operations.

Acidity or alkalinity of pulps is determinable by standard methods and indicates the completeness of washing after the pulping operation. It is of considerable importance to subsequent stuff preparation operations, and should be held as constant as possible.

Permanence of fibers or pulps is measured in several ways, viz., accelerated heat test, resistance to chemicals and to active radiation. There is now considerable data on this property as exhibited by various materials, such as rag, cotton, purified wood pulp, wood pulp, and lignocellulose and other celluloses. Permanence is the maintenance of chemical constants (which directly influence strength, color, and others to a lesser degree) over scores of years and is of much importance in materials going into bonds, treaties, records, letters, contracts, and other documents of long standing, and many other uses.

Several other chemical constants of cellulose fibers, or pulps, such as pentosan content, solubility in alkali, beta- and gamma-cellulose content may have increasing significance and should be kept in mind.

Test Methods

In order to evaluate properties after they are identified in any material, it is necessary to have standard test methods. The Technical Association has taken steps to meet this requirement and is compiling an official manual which will contain the various tests now available. As a possible contribution to this work, there is here proposed a decimal system for classifying test methods and constants, covering the properties of all materials in the industry starting with nonfibrous raw materials (0000-0999) and fibrous raw materials (1000-1999), and carrying through pulps and stuffs (2000-2999), fiber suspensions (3000-3999), wet fiber mats (4000-4999), papers and paper boards (5000-5999), converting materials (6000-6999), and use industries materials (7000-7999). The system is presented here in outline with particular emphasis on the pulp and related properties sections.

OUTLINE OF A DECIMAL SYSTEM FOR CLASSIFYING AND SPECIFYING TEST METHODS FOR PAPER MAKING MATERIALS

(Summary of Classes)

Method No.	Material or property	Minimum values V_1	Maximum values V_2	Method status
0000	Nonfibrous raw materials	.....	.....	.....
0100	Miscellaneous	.....	.....	.....
0200	Process materials	.....	.....	.....
0300	Lubricants	.....	.....	.....
0400	Metals	.....	.....	.....
0500	Constructional materials	.....	.....	.....
0600	Service materials	.....	.....	.....
1000 to 1999	Fibrous raw materials	.....	.....	.....
2000 to 2999	Pulps and stuffs	.....	.....	.....
3000 to 999	Fiber suspensions	.....	.....	.....
4000 to 4999	Wet fiber mats	.....	.....	.....
5000 to 5999	Papers and paper boards	.....	.....	.....
6000 to 6999	Converting materials	.....	.....	.....
7000 to 7999	Use industries materials	.....	.....	.....

OUTLINE OF A DECIMAL SYSTEM FOR CLASSIFYING AND SPECIFYING TEST METHODS FOR PAPER MAKING MATERIALS

Method No.	Material or property	Minimum values V_1	Maximum values V_2	Method status
0000	Nonfibrous raw materials	.....	.....	.....
0100	Miscellaneous materials	.....	.....	Available
0110	Filler (Clay, talc, etc.)	.....	.....	.....
0120	Coating (Casein, etc.)	.....	.....	.....
0130	Sizing (Rosin, glue, etc.)	.....	.....	.....
0140	Dyestuffs and colors	.....	.....	.....
0200	Process materials	.....	.....	Available
0210	Coal	.....	.....	.....
0211	Water	.....	.....	.....
0212	Steam	.....	.....	.....
0213	Chemicals	.....	.....	.....
0213.1	Limestone	.....	.....	.....
0214	Pulpstones	.....	.....	.....
0300	Lubricants	.....	.....	Available
0400	Metals	.....	.....	Available
0500	Constructional materials	.....	.....	Available
0600	Service materials	.....	.....	Available

[5] Brown, R. B. Tech. Assoc. Papers *XV*, 133-6 (1932). Carter, E. C. Paper Trade J. *93*, No. 15, 54 (Oct. 8, 1931). Stuart, W. H. Paper Trade J. *93*, No. 21, 39 (Nov. 19, 1931).

[6] Bergman, G. K. Paper-Fabr. *30*, 121-6 (1932).

[7] A. Kung and E. Seger. Papier-Fabr. *27*, 433-6 (1929); C. A. *23*, 5576.

OUTLINE OF A DECIMAL SYSTEM FOR CLASSIFYING AND SPECIFYING TEST METHODS FOR PAPER MAKING MATERIALS—Continued

Method No.	Material or property	Minimum values V_1	Maximum values V_2	Method status
1000	Fibrous raw materials			
1100	Seed-hair			Available
	Cotton			
	Bombax wool			
1200	Stem (bast)			Available
	Flax (linen)			
	Hemp			
	Jute or Calcutta hemp			
	Nettle fibers			
	Common nettle			
	China grass			
	Ramie			
	Indian corn			
	Sugar cane			
	Bamboo			
	Sunn hemp			
	Manila hemp			
	Straw			
	Esparto			
1300	Leaf			Available
	New Zealand hemp			
	Manila hemp			
	Sisal or Domingo hemp			
	Aloe fiber			
	Pineapple leaf fiber			
	Vegetable wool (pine cones)			
	Palm			
1400	Fruit			Available
	Cocoanut fiber			
1500	Wood			
1510	Chemical properties			
1520	Physical properties			Available
1590	Technical evaluation			F.P.L. No. 115
1600	Coniferous pulp woods			Available
1610	Larch, tamarack			
1611	Fir			
1612	Spruce			
1612.1	White			
1612.2	Black			
1613	Cedar			
1614	Pine			
1615	Hemlock			
1616	Cypress			
1617	Douglas fir			
1700	Broadleaf pulp woods			
1710	Birch			
1711	Beech			
1712	Maple			
1713	Poplar			
1714	Chestnut			
1715	Gum			
1716	Basswood			
1717	Tulip			
2000	Pulps and stuffs			
2100	Nonfibrous component			
2110	Moisture			
2111	Distillation			
2111.1	Xylene			Available
2111.11	Youtz-Lauer			Available
2112	Oven			F.P.L. 11-14
2112.1	Humidified			Available
2120	Dirt			
2121	Shives			F.P.L. No. 102
2122	Bark			F.P.L. No. 102
2123	Mineral			
2124	Metals			F.P.L. No. 103
2125	Molds			F.P.L. No. 105
2126	Fungus			F.P.L. No. 105
2127	Slime			F.P.L. No. 105
2130	Chemical residues			
2131	Lime salts			
2132	Resins			
2132.1	Pitch			F.P.L. No. 25
2133	Sulphur			F.P.L. No. 65
2140	Others			
2200	Fibrous component			
2210	Chemical			
2211	Cellulose			
2211.1	C & B cellulose			F.P.L. No. 33
2211.11	Alpha			F.P.L. No. 37–8
2211.12	Beta			F.P.L. No. 37–8
2211.13	Gamma			F.P.L. No. 37–8
2212	Lignin			
2212.1	Sulphuric acid			F.P.L. No. 31
2212.2	Hydrochloric acid			Available
2213	Pentosans			F.P.L. No. 45
2214	Extractives			
2214.1	Ether			F.P.L. No. 25
2214.2	Alcohol			Available
2214.3	Alcohol-benzene			F.P.L. No. 27
2214.4	Sodium hydroxide (1%)			F.P.L. No. 19
2215	Acidity			F.P.L. No. 47
2216	Ash			F.P.L. No. 66
2220	Physical			
2221	Appearance			
2221.1	Color			
2221.11	Ives			F.P.L. No. 137
2221.12	G.E. comparator			Available
2221.13	G.E. recording analyzer			Available
2221.2	Opacity			
2221.21	Contrast ratio			
2221.211	B. of Stand.			Available
2221.212	Ives			F.P.L. No. 133–4
2221.22	Transmission			Available
2221.23	Extinction			Available
2222	Dimensional			
2222.1	Length			Available
2222.2	Width			Available
2222.3	Ratio (L/W)			Available
2222.4	Form			
2223	Density			
2223.1	Fiber substance			F.P.L. No. 123
2223.11	Specific volume			F.P.L. No. 100
2224	Structure			
2224.1	Fibrillation			
2224.2	Surface			
2224.21	Area			
2224.22	Roughness			
2225	Imbibitional			
2225.1	Wetness			
2225.2	Sorption			Available
2225.21	Absorbency			F.P.L. No. 175, 178, 181
2225.211	Water			Available
2225.212	Oil			
2225.22	Penetration			
2225.221	Water			
2225.222	Oil			
2226	Conductivity			
2226.1	Heat			
2226.2	Electrical			F.P.L. No. 173
2227	Permanence			
2227.1	Actual aging			Available
2227.2	Accelerated aging			Available
2228	Mechanical			
2228.1	Strength			
2228.11	Tension			Available
2228.12	Compression			
2228.13	Shear			
2228.2	Elastic			
2228.21	Stiffness			
2290	Applied properties			
2291	Beatability			
2291.1	Beater			
2291.11	1 lb. Valley			Available
2291.12	5 lb. Valley			Available
2291.2	Pebble mill			F.P.L. No. 98,101
2291.3	Lampen mill			Available
2292	Disperse viscosity			
2292.1	Cuprammonium			Available
2292.2	Viscose			Available
2293	Hydrolysis number			F.P.L. No. 18
2294	Bleachability			
2294.1	Chlorine			F.P.L. No. 35
2294.11	Roe number			Available
2294.2	Hypochlorite			
2294.21	Calcium			F.P.L. No. 49
2294.3	Bromine			
2294.31	Tingle number			Available
2294.4	Permanganate			
2294.41	Enso number			Available
2295	Copper number			
3000	Fiber suspensions			
3100	Sedimentation			Available
3110	Flobility			Available
3200	Flocculation			
3300	Viscosity			
3310	Water			Available
3400	Light transmission			Available
4000	Wet fiber mats			
4100	Drainage rate			
4110	Rate of flow			Available
4120	Slowness			Available
4130	Freeness			
4131	Green			F.P.L. No. 92
4132	Schopper			Available
4133	Williams			Available
4140	Compressibility			
4141	Springback			Available
4150	Porosity			
5000	Papers and paper boards			
5100	Material properties			
5110	Chemical composition			Available
5120	Physical composition			Available
5200	Volumetric properties			
5210	Air fraction			F.P.L. No. 200
5211	Pore			F.P.L. No. 201
5212	Recess			F.P.L. No. 202
5213	Void			F.P.L. No. 203
5220	Liquid fraction			Available
5230	Solid fraction			F.P.L. No. 162–3, 200
5300	Structure properties			
5900	Applied properties			
5910	Density			F.P.L. No. 123
5920	Thickness			F.P.L. No. 118
5930	Ream weight			F.P.L. No. 141
5940	Appearance			
5941	Color			F.P.L. No. 137
5942	Opacity			F.P.L. No. 133
5943	Dirt			F.P.L. No. 102
5950	Mechanical			
5951	Strength			
5951.1	Tensile			
5951.11	Schopper			F.P.L. No. 130
5951.2	Folding			
5951.21	Schopper			F.P.L. No. 124
5951.22	M.I.T.			Available

OUTLINE OF A DECIMAL SYSTEM FOR CLASSIFYING AND SPECIFYING TEST METHODS FOR PAPER MAKING MATERIALS—Continued

Method No.	Material or property	Minimum values V_1	Maximum values V_2	Method status
5951.3	Tearing	.....	.....	.....
5951.31	Elmendorf	.....	.....	F.P.L. No. 129
5951.4	Bursting	.....	.....	.....
5951.41	Ashcroft	.....	.....	F.P.L. No. 127
5951.42	Mullen	.....	.....	F.P.L. No. 127
5952	Elasticity	.....	.....	Available
5960	Sorption	.....	.....	.....
5961	Absorbency	.....	.....	F.P.L. No. 178
5962	Penetration	.....	.....	F.P.L. No. 172
5970	Surface smoothness	.....	.....	Available
5980	Physical permanance	.....	.....	.....
5981	Shrinkage	.....	.....	Available
5982	Curl	.....	.....	.....
6000	Converting materials	.....	.....	.....
7000	Use industries materials	.....	.....	.....

Available Methods

As is shown by an examination of the tabulation, the methods available in the whole pulp and paper industry are, by and large, rather empirical and the total number of suitable methods surprisingly small. This makes plain the desirability of developing new and more basic test methods to adequately express the properties needed to meet the requirements of use in the several steps from raw materials to finished product.

There are many possible systems that could be used for classifying or specifying pulps and other paper-making materials; the only one which will eventually be found to be entirely satisfactory to relate materials to the requirements of use will be the one based on properties specifications.

In order to show how the proposed system may be used to express the needed properties of pulps or other paper products, the following tabulation of the properties characterizing a news grade of sulphate pulp has been set up:

PROPERTIES CHARACTERIZING A NEWS GRADE SULPHITE PULP WITH SPECIFIED VALUES

No.	Technical property Name	Method	Minimum values V_1	Maximum values V_2
1	Bleachability	2294.21	23%	33%
2	Freeness	4131	500	600
3	Fiber dimensions	2222.1	....	....
		2222.2	....	....
4	Color	5941	66 blue	70 blue
5	Dirt	2121	....	20
		2122	....	10
		2124	....	10
6	Opacity	5942	75	80
7	Wetness	2225.1	....	....
8	Absorbency	2225.211	....	....
9	Penetration	2225.221	....	....
10	Tensile strength (breaking length)	5951.11	4500	....
11	Folding	5951.21	1500	....
12	Tearing	5951.51	2.00	....
13	Bursting	5951.42	1.1	....
14	Beatability	2291.11	....	....
15	Stiffness	2228.21	....	....
16	Pitch content	2214.3	....	0.5%
17	Acidity	2215	....	....
18	Disperse viscosity	2292.2	....	....
19	Alpha cellulose	2211.1	78%	82%
20	Copper number	2295.1	....	3.0
21	Permanence	2227.2	80%	85%

All of these characteristics have at one time or another been found valuable in setting up the limits within which a sulphite pulp of news grade should be kept. Obviously, it would be impracticable to impose "control" tests for all or even the majority of the properties but nevertheless each is important in its relation to a certain phase of requirement of use and a consideration of all properties is essential to a complete characterization or setting up of specifications if this is to be properly accomplished.

It is hoped that the Technical Association will take prompt steps to characterize all grades of pulps in some such fashion, and to write specifications on this basis. The gaps of knowledge and lack of test data which such action will bring to light should serve to focus attention on the paucity of our existing information and to stimulate constructive work toward the solution of this problem.

The system offered here is merely something specific and concrete from which to work with the realization that it is only a start. The values of V_1 and V_2, as the minimum and maximum tolerances, can be set according to the needs of the use for which the pulp is being purchased. After the effect of the variables of the several fiber processing apparatus are known as well as those of the paper-making processing, exact limits can be set on most of the technical properties.

Conclusions

The available knowledge on the requirements of use of pulps and stuffs, as well as other paper-making materials, is still meagre and empirical in nature.

Further information can be obtained in two ways:

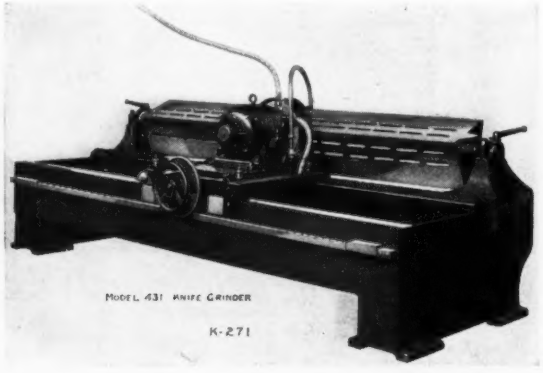
(1) By actual use of materials and the correlation of their test values with process requirements in an empirical way;

(2) By the use of basic engineering principles and data relating various steps in paper-making processes and in those processes using paper and paper board.

Before much correlation can be done, however, it will be necessary to organize, select, or develop test methods to measure the selected properties characterizing the materials. A casual inspection of the paper industry as well as past experience at the Forest Products Laboratory shows that there is great need for many improved and new methods to express the selected properties. After having a complete set of test methods and knowledge of the relation of the test values and use requirements, the proposed system of setting up specifications can be utilized to its fullest extent either by selecting the significant properties or a full set of properties with the proper limiting values for each particular use.

New Automatic Knife Grinder

Model 431 Automatic Knife Grinder is a new machine made by the Coe Manufacturing Company, of Painesville, Ohio, which is the result of many years of experience with knife grinding problems, under varying conditions, combining new principles with approved features of design heretofore found only in costly machine tools.



MODEL 431 COE KNIFE GRINDER

This new machine possesses features which assure speed of set-up with safety, new accuracy of grinding, conservation of time through wholly automatic operation and an almost unlimited life of service due to exceptionally rugged construction.

To see the machine in operation is to be impressed with its smooth, quiet and effortless action, which is convincing evidence of superior design and ideal co-ordination of all the various parts.

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

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Analytical and Testing Methods

The Assembly and Calibration of the Glass Electrode for Use in the Determination of the pH of Solutions During Bleaching. E. H. Voigtman and B. W. Rowland. Paper Trade J. 95, No. 9, 36-68 (Sept. 1, 1932).—A brief review of theories which have been suggested regarding the function of the glass electrode for pH determinations, with a description of its assembly and of its application to the control of the pH of pulp bleaching solutions.—A.P.-C.

Numerical Factors for the Dot-Count Method of Fiber Analysis. William Landes. Paper Trade J. 95, No. 6, 27-30 (Aug. 11, 1932).—The article shows in which cases factors are necessary for correcting the results of the dot-count method and presents experimental data supporting certain factors obtained.—A.P.-C.

On the Testing of Fiberboard Insulation. C. D. Niven. Can. J. Research 7, 115-130 (Aug. 1932).—The hot-plate apparatus installed at the National Research Laboratories, Ottawa, to ascertain the cause of the inconsistency in results obtained by different investigators on insulating wallboard, is described. In boards composed of either bagasse or wood fibres, a migration of moisture occurs from the hot to the cold side. The conductivity of a board with fairly high moisture content decreases enormously during a long period of testing. The conductivity-density relation is essentially linear, but should be represented as a band rather than a line for the effect of the structure of the board on the conductivity.—A.P.-C.

Chemical Trim Process. L. M. Booth. Paper Trade J. 95, No. 9, 44-46 (Sept. 1, 1932).—A plea for more of fundamental data such as are necessary for a better understanding of the chemical aspects of sheet formation, and for developing a control process whereby the intensity and also the quantity of acidity of the water carrying the stock may be accurately adjusted.—A.P.-C.

Machinery

Drum Barking of Wood for Chemical Pulp at Toppila. K. J. Mattas. Pappers-Travärutid. Finland 14, no. 4: 136-138, 140 (Feb. 29, 1932); Bull. Inst. Paper Chem. 2: 234.—Mattas reports excellent results with barking drums which have been installed in the Finnish pulp mill at Toppila. According to his opinion floated or dry-shipped wood for chemical pulp can be barked satisfactorily in drums of correct dimensions.—C.J.W.

Treatment and Manufacture of Fourdrinier Wires. Papir-J. 20, no. 5: 48-50 (Apr. 16, 1932); Bull. Inst. Paper Chem. 2: 268.—The gliding motion of the wire over rolls and suction boxes and the harmful contact with certain chemicals such as alum, caustic soda, acids, are given as the main factors causing wear. The desirable qualities of the individual threads forming the wire, as well as of the mode of weaving are outlined.—C.J.W.

Suction Pumps for Paper Machines. R. W. Mueller. Svensk Pappers-Tidn. 35, no. 13: 455-456, 459 (July 15, 1932); Bull, Inst. Paper Chem. 2: 328.—In comparison to the paper machine, the suction pump is a very small piece of apparatus, whose failure can, however, result in bringing the entire paper machine to a stop. The development of this pump type is described and reference is made to the latest construction by Escher-Wyss. A new feature of this latest type is two specially shaped three-lobed blades which resulted in higher speed and greater uniformity of 9, 29-35 (1931). A review.—C.J.W.

Circulation Digestion. E. Morterud. Papir-J. 19:5-9 29-35 (1932). A review.—C.J.W.

Log Barker. Arthur M. Kirkwood assignor to Log Debarking and Sizing Corp. U. S. pat. 1,855,577, April 26, 1932.—The invention provides a barking machine which can be mounted on a float or beside a body of water. Means are provided for holding and rotating the log while it is partly immersed in water. A rotating cutter removes the bark from the log as the latter rotates and is made to travel longitudinally along the log.—A.P.-C.

Drum Type Mill for Paper Manufacture. Ulrich Kirchner and Gerald Strecker. U. S. pat. 1,854,652, April 19, 1932.—The invention relates to a mill or refiner in which the grinding units are so connected with the shaft that they move in planes perpendicular to the axis and which grind the stock on the inside surface of a drum under the action of centrifugal force. The efficiency of such mills is increased by connecting the grinding members to the driving shaft by means of parallel guiders.—A.P.-C.

Refiner. Ludwig H. Wessel and Oscar E. Larson assignors to The Hermann Manufacturing Co. U. S. pat. 1,854,356, April 19, 1932.—A refiner plug consists of a core over which fits a sleeve carrying the knives. Means are provided for securing the sleeve to the core and preventing endwise or circumferential creeping, while permitting of quickly and easily securing the sleeve to the core or releasing it. The securing mechanism is protected from contact with water.—A.P.-C.

Method of and Apparatus for Beating Paper Pulp. Walter N. Sherwood. U. S. pat. 1,863,808, June 21, 1932.—The stock is supplied to the lower portion of the roll on one side and is carried upwardly above the roll by centrifugal force and collected in a trough placed above the intake side of the roll, where it is given a whirling mixing motion; it is then discharged into the tub and is circulated to return to the roll. The tub is preferably provided near its intake end with a compartment, the inner side of which is inclined longitudinally toward the center to provide a contracted opening for this section. This construction ensures mixing of the lighter and heavier portions of the stock with the result that the entire mass travels at sub-

stantially the same speed. Means are provided for extracting the pulp during beating so that the apparatus functions as a continuous beater.—A.P.-C.

Yankee Fourdrinier Machine. Hiland R. Farnsworth assignor to The Paper and Textile Machinery Co. U. S. pat. 1,858,546, May 17, 1932.—A fourdrinier machine is equipped with plain bottom couch roll and top suction couch roll. A pick-up felt passes between the top and bottom couch roll, carries the web through a press and transfers it to a Yankee drier roll.—A.P.-C.

Air Deckling. Courtlandt B. Griffin assignor to Carew Manufacturing Co. U. S. pat. 1,864,726, June 28, 1932.—A wet web of paper is separated to obtain a deckle effect by directing one or more jets of air against the wet web as it travels therepast.—A.P.-C.

Wire-Applying Mechanism for Fourdrinier Paper Machines. Joseph A. White assignor to The Moore and White Co. U. S. pat. 1,860,303, May 24, 1932.—The invention provides that, after removal of the old wire, the new wire is carried on a special truck which is displaced alongside the fourdrinier part as the wire is being unrolled. Vertical posts (either stationary or removable) are provided at intervals at a distance somewhat greater than the width of the wire; and as the latter is being unrolled, horizontal bars or poles are successively mounted between the posts and machine frame to support the wire at the side of the fourdrinier. When the wire has been completely unrolled, suitable clamps are attached at intervals to both the top and bottom runs; the clamps are attached to ropes which are then wound on a shaft parallel to the machine and on the side opposite to that of the wire, so that the latter is evenly drawn into position on the machine.—A.P.-C.

Fourdrinier Machine. Edward J. McDonnell. U. S. pat. 1,856,347, May 3, 1932.—In order to regulate the rate at which water drains on the wrie from free stock, a number of (preferably wooden) boards are located just under the wire between the breast roll and suction boxes. Means are provided for varying the distance separating the boards from one another. The rate of drainage can thus be regulated to maintain the fibers in suspension in the water for a sufficient time to enable the shake to give the desired degree of felting.—A.P.-C.

Suction Roll. Andrew N. Russell assignor to The Paper and Textile Machinery Co. U. S. pat. 1,862,909, June 14, 1932.—The invention provides simple means for adjusting the suction box within the roll in the radial direction, so that it will contact with the interior of the roll under a predetermined pressure, the adjusting means being constructed so that they can be operated from one end of the roll. The roll is mounted so that it is directly driven from the outside of the frame, and means are provided within the driving sleeve to allow easy access to the suction box and its adjusting and movement-limiting mechanism.—A.P.-C.

Suction Box Lever for Suction Rolls. Hiland R. Farnsworth assignor to The Paper and Textile Machinery Co. U. S. pat. 1,858,545, May 17, 1932.—In order to facilitate supporting the suction roll when a wire or felt has to be changed, the suction box is extended at one end to provide the necessary lever for supporting the roll.—A.P.-C.

Felt Conditioner. Eugene H. Lansing. U. S. pat. 1,853,064, April 12, 1932.—In order to prevent the flexible tube, which delivers water to the conditioner as it travels across the width of the machine, from coming into contact with the felt, the hose is supported in two lengths of piping which are hinged together and are supported so that they remain parallel to the plane of the felt.—A.P.-C.

Cylinder Paper Machine. Anton J. Haug. U. S. pat. 1,848,478, March 8, 1932.—The cylinder mold is constructed with both ends open for practically the whole diameter to permit rapid escape of the water without collecting inside the cylinder. The whole of the inside of the cylinder mold is kept under vacuum, and a shield is provided over the portion of its surface which is outside of the stock and is not covered by the web formed on its surface.—A.P.-C.

Cylinder Paper Machine. Emil A. Petersen and William J. McGinnis assignors to Valley Iron Works. U. S. pat. 1,856,081, May 3, 1932.—The cylinder mold is not immersed in the stock, but the latter is directed upon the upper surface of the cylinder only, and means are provided close to the point of delivery of the stock to agitate the stock so as to obtain as nearly as possible equal strength in the machine and cross directions.—A.P.-C.

Method of Making Pulp Ribbons and Wet-Machine Therefor. Roy E. Brawn, assignor to Brown Co. U. S. pat. 1,864,580, June 28, 1932.—Pulp at a very high dilution (about 0.025%) is directed against an endless wire travelling around a suction roll so that the stock comes into contact with it opposite the bottom of the suction box, the latter extending above the level of the liquid. The shell of the suction roll is constructed so that a number of strips or ribbons of pulp are formed instead of a web extending the full width of the wire.—A.P.-C.

Paper Drier. John W. Vedder. U. S. pat. 1,857,222, May 10, 1932.—This is an improvement on Vedder's U. S. pat. 1,670,832, of May 22, 1928. The gear boxes supporting the drying cylinders are constructed as part of the frame of the machine, the outer surface of the frame forming the inner surface of the gear box. The steam joint is supported on the outer surface of the gear casing to prevent possibility of misalignment. The packing of the steam joint forms part of the outside of the frame and is flexibly connected to compensate for misalignment.—A.P.-C.

Paper Drier. Sidney A. Reeve assignor to Beloit Iron Works. U. S. pat. 1,854,956, April 19, 1932.—The whole machine, from the flow box to the end of the driers, is enclosed in a practically airtight casing, which is divided into a suitable number of compartments. In the drier section is a compartment containing tiers of pipes through which passes high-pressure superheated steam; the paper passing through this compartment is supported out of contact with the pipe by means of translucent material such as wire-reinforced glass. The steam generated from the paper in this compartment is used in the drier rolls. Different pressures are maintained in the various compartments, producing what amounts to multiple-effect evaporation. Considerable saving in steam consumption, even as compared with vacuum drying, is claimed.—A.P.-C.

Conveyor for Sheet Driers. Bennett F. Clark assignor to John Waldron Corp. U. S. pat. 1,864,415, June 21, 1932.—The invention provides certain details of construction of the conveyor of sheet driers such that neither the conveyor itself nor the supported trays interferes materially with the circulation of air through the drier. A selected tray or trays, either with or without their supports, may be readily removed without interfering with the operation of the remaining trays or of the conveyors.—A.P.-C.

Calender. Harrison R. Williams. U. S. pat. 1,855,435, April 26, 1932.—The paper, after passing through part of the calender stack, passes around a driven, soft, felt-covered roll, against a portion of which is adjustably pressed a concave, highly polished metal shoe heated to about 800°F.—A.P.-C.

Slitter. James A. Cameron assignor to Cameron Machine Co. U. S. pat. 1,865,302, June 28, 1932.—In a

score-cut slitter, the backing roll which co-operates with the cutters is provided with rings, one opposite each cutter, which are adjustable along the roll, and which project but very slightly above the main diameter of the roll.—A.P.-C.

Scraper Blade for Calender Rolls. Harry Wright, Jr., assignor to The Mead Corp. U. S. pat. 1,859,014, May 17, 1932.—A hand-operated scraper blade for removing particles adhering to calender rolls is provided with a finger guard, consisting of two semi-cylindrical pieces slightly longer than the width of the blade and clamped together so that the blade is held snugly between them but can easily be drawn through if the scraping edge is caught in one of the nips of the calender.—A.P.-C.

Automatic Side Control for Rolls. Charles A. Dickhaut assignor to John Waldron Corp. U. S. pat. 1,858,436, May 17, 1932.—In order to compensate for lateral deviation of the web as it is being rewound, a diaphragm-covered chamber contacts with each edge of the web as it passes to the slitter or winder, and variation in the pressure in the chambers acts on a lever arm which displaces the supply roll to restore the original pressure. The diaphragms of the two chambers are connected together to function simultaneously to transmit longitudinal displacement of the roll. The control chambers of a number of rolls may be connected to a common means for maintaining a normal chamber pressure, while at the same time changes in the pressure of one chamber are prevented from affecting the others.—A. P.-C.

Method of Splicing Paper Cores, Tubes, Etc. Richard Spry. U. S. pat. 1,857,519, May 10, 1932.—The ends to be spliced are reduced in diameter by squeezing or compressing or by cutting a portion of the material on the outer face. A series of notches are cut in the ends, so that the projecting portions of the end of one piece fit into the notches cut in the end of the other piece. A splicing band is fitted over the reduced section of the joined pieces, so that the outside diameter of the splice is the same as that of the main portion of the spliced core or tube.—A.P.-C.

Paper Machine Drive. Thomas D. Nuthall assignor to Bentley and Jackson, Ltd. U. S. pat. 1,859,838, May 24, 1932.—The in-driving shafts of the different sections of the machine are driven at an approximately uniform speed, and the rolls driven thereby are varied in diameter or suitably geared to give the required surface speed at each section to the paper web passing through. Small variations in the speed of individual sections are provided for by means of V-belts and adjustable V-groove pulleys.—A.P.-C.

Calender. George Nicholas assignor to Rhinelander Paper Co. U. S. pat. 1,865,270, June 28, 1932.—In order that one man, instead of two, may thread paper through a calender stack, the shaft carrying the uncalendered paper is connected to a source of power so that the roll can be rotated at a surface speed slightly lower than that of the calender rolls. It is connected to the driving pulley through a slanting-tooth clutch, which can be operated either from the ground or from the platform of the calender.—A.P.-C.

Flat Screen. Theodore E. Xistris assignor to Valley Iron Works. U. S. pat. 1,856,450, May 3, 1932.—The inventions provides an improved arrangement for locking the screen plates in operative position and for facilitating their removal.—A.P.-C.

Continuous Filter. John J. Armstrong. U. S. pat. 1,856,452, May 3, 1932.—In an Oliver type filter, the filtering element consists of a helically wound wire mounted on an improved support which also serves to divide the filter into sections, from the end flanges of the filter surface, and protect the filter from damage from localized suction and pressure.—A.P.-C.

Pulp Screening Machine and Process. Anton J. Haug. U. S. pat. 1,864,818, June, 28, 1932.—In order to eliminate certain irregularities which have been noted in the screening effected by machines such as described in Haug's U. S. pats. 1,533,410 of April 14, 1925, and 1,551,953 of Sept. 1, 1925, the screened stock outlet may be provided with a series of adjustable baffle plates or with an adjustable weir to regulate the hydraulic pressure inside the screen, or else a supplementary casing, open at one or both ends, is interposed between the rotating surface and the main casing of the machine.—A.P.-C.

Pulp Filter. Edward J. Trimbey. U. S. pat. 1,856,176, May 3, 1932.—The unscreened pulp is brought to a high rotative velocity in a stationary, vertical, cylindrical screen by means of a rotor before it comes in contact with the stationary screen plates. The fibers are thus made to assume a position practically parallel to the direction of flow which is a circular path determined by the cylindrical body of the screen. In this way only those fibers having a length equal to or less than the diameter of the perforations can pass through the screen. After most of the good stock has passed through the screen, white water is added to dilute the remaining stock and help free the slivers and screenings from any adhering good fibers.—A.P.-C.

Circulation System for Digesters. Rex W. Hovey. U. S. pats. 1,858,591, May 17, 1932.—Near the top of the digester is a header having a series of pipes adapted to draw hot liquor from the top of the digester into the header. The liquor is pumped back into the bottom of the digester through a second header provided with a series of pipes which distribute the liquor between the axis and the shell of the bottom cone of the digester.—A.P.-C.

Digester. Carl F. Richter assignor to Stebbins Engineering and Manufacturing Co. U. S. pat. 1,860,477, May 31, 1932.—The digester is lined throughout with carbon bricks.—A.P.-C.

Mold for Fiber Board Sheets. Francis S. Farley and Hugo F. Walter assignors to Daniel M. Sutherland, Jr. U. S. pat. 1,855,826, April 26, 1932.—The bottom surface of the top of the mold is covered with a layer of porous elastic material such as vulcanized sponge rubber, to prevent the sheet from adhering to it when the top of the mold is raised.—A.P.-C.

Combination Box Board Machine. Walter B. Hadley assignor to Kellogg-Hadley Corp. U. S. pat. 1,859,869, May 24, 1932.—The felt carrying the multiple-ply sheet formed on a multi-cylinder machine is passed over a series of flat suction boxes, an endless wire belt being interposed between the felt and suction boxes.—A.P.-C.

Chromium-Nickel-Iron Castings for Sulphite Pulping Equipment. Anon. Paper Trade J. 95, No. 9, 33-36 (Sept. 1, 1932).—A preliminary report of the TAPPI materials of construction committee presenting tentative specifications based on a review of the literature, metallurgical examination of castings that failed in service, and the experience of producers.—A.P.-C.

Method for Converting Liquid Pulp into a Consistent Mass Suitable for Storage, etc., or into Bales for Shipment. Richard T. Lang assignor to American Voith Contact Co., Inc. U. S. pat. 1,861,184, May 31, 1932.—The pulp is deckered to a consistency of about 2 to 8 per cent, fed through pipes or open troughs into screw presses which remove up to 30 to 55 per cent of the moisture content, and discharged into mechanical or pneumatic conveyors which deliver it either to the storage bin or into baling presses of the hay-press type.—A.P.-C.

Method and Apparatus for Concentrating Pulp. Otto Andresen, U.S. pat. 1,867,436, July 12, 1932.—The sieve member by means of which the pulp is concentrated is completely immersed in the dilute pulp. The layer of thickened pulp which builds up is removed by means of compartments which, preferably, consist of pipes, open at one or both ends, placed transversely to the line of travel of the sieve and having a longitudinal slot into which the thickened pulp is automatically scraped. The pipes are mounted so that, in scraping off the thickened pulp from the sieve, they leave a very thin layer of pulp which serves to prevent escape of fibers with the white water.—A.P.-C.

Paper Shredding and Crimping Machine. Harry W. Wilson. U. S. pat. 1,866,690, July 12, 1932.—The invention provides a machine for cutting and crimping sheets of paper in the manufacture of paper excelsior. The paper is cut by passing between two sets of intermeshing discs with bevelled cutting edges mounted on parallel shafts, with slight clearance between the two sets of discs. The cut strips are passed through a pair of corrugated rolls to crimp them. The sheets are fed to the cutting discs by means of conveyors provided with devices for removing material in excess of that which can be handled by the cutter.—A.P.-C.

Slice and Head Box for Paper Machines. Ralph Wood assignor to Scott Paper Co. U. S. pat. 1,866,607, July 12, 1932.—The invention provides a gradually tapered passage or throat from the head box to the slice nozzle, whereby the stock is given an accelerating speed of flow and velocity of discharge with a minimum amount of agitation. The slice is constructed to permit the thickness of the sheet of stock flowing on to the wire to be adjusted at various spaced points transversely of the machine, and also for modifying or adjusting the thickness of the stock as a whole without disturbing the local adjustments.—A.P.-C.

Covering for Dandy Rolls. Frederick La Croix. U. S. pat. 1, 866,811, July 12, 1932.—In order to relieve the monotony in the appearance of laid paper the bars are made of bendable, relatively soft wire and any suitable design is indented into the wire covering.—A.P.-C.

Shake Apparatus and Method. Henri G. Chatain assignor to Hammermill Paper Co. U. S. pat. 1,865,613, July 5, 1932.—Effective agitation of the pulp stream on the wire is accomplished without shaking the fourdrinier wire or other parts of the machine by applying agitating impulses to the upper surface of the pulp stream. A table or platform is mounted at such distance above the fourdrinier wire as to contact with the upper surface of the stream of stock as the latter flows from the head box; vibrators are provided for reciprocating the platform vertically and horizontally, both in the machine and cross directions.—A.P.-C.

Method of and Apparatus for Making Paper. John D. Tompkins. U. S. pat. 1,868,617, July 26, 1932.—The newly formed web, before pressing, is partially dried by providing sources of radiant heat, *e.g.*, electric resistance heaters backed by reflectors, above the sheet and suction boxes below the wire or felt (in cylindrical machines). With this arrangement the presses may be dispensed with entirely in some cases.—A.P.-C.

Eccentric for Shaking Mechanism. Martin J. Mollen assignor to Nekoosa-Edwards Paper Co. U. S. pat. 1,856,777, May 3, 1932.—The device comprises an eccentric drive shaft with a split tapered sleeve secured to it. On the sleeve there is an eccentric bushing with a bearing surface around which are placed straps. The bushing is adjustable on the sleeve to vary the eccentric throw of the straps.—A.P.-C.

Paper Machine. John Traquair assignor to The Mead Corp. U. S. pat. 1,867,930, July 19, 1932. John Traquair and Herbert A. Kidd assignors to The Mead Corp. U. S. pat. 1,867,931, July 19, 1932.—*No. 1,867,930*—A stock inlet of suitable type, *e.g.*, a Voith inlet, is mounted to deliver a stream of stock on to the surface of a rotating cylinder mold. The under surface of the latter is divided into a number of compartments connected by a number of relatively large passages or ducts to a distributing valve extending along the axis of the mold. The surface is subjected to vacuum at a point slightly in advance of that at which the stock is delivered to it. At the point at which the web is transferred to the felt air pressure is substituted for vacuum, and the transfer may be facilitated by providing a suction box on the other side of the felt at this point. Finally, before reaching the point where it is again subjected to suction, the surface is subjected to the action of washing water passing from the inside outwards. Multiple-ply paper may be made by using two or more inlets with one mold. *No. 1,867,931*—In a machine of the general type described in the preceding patent a suitable shield or covering is provided on the outer surface of the covering of the cylinder mold and extends from the point where vacuum is first applied to the point where the stock is delivered to it, so as to enable sufficient vacuum to build up inside the mold. Suction may be applied to both sides of the shield to prevent excessive drag on the surface of the cylinder mold.—A.P.-C.

Cylinder Paper Machine. Howard Parker assignor to Brown Co. U. S. pat. 1,867,588, July 19, 1932.—A pulp vat is mounted adjacent a cylinder mold in such a way as to present a pool of stock to a portion of an upper quadrant only of the mold. The vat is constructed with partitions arranged so that the stock reaches the mold in the form of controllable currents to form a regulated web of substantially uniform thickness on the mold.—A.P.-C.

Drier Felt. Harrison R. Williams. U. S. pat. 1,873,949, Aug. 30, 1932.—The side of the felt which is in contact with the paper is water impervious and heat insulting, so as to increase the heating effect of the drier rolls.—A.P.-C.

The Control of Steam in Paper Drying. W. J. O'Brien. Paper Ind. 14, 362 (Aug., 1932).—A brief description of the O'Brien system of steam control for paper machine driers, which operates to maintain the moisture content of the finished paper constant.—A. P.-C.

Winder Drive for Paper Machines. Daniel R. Francis, assignor to The Waterbury Tool Co. U. S. pat. 1,868,285, July 19, 1932.—In order to prevent uneven winding at the core of rewound rolls and to provide means for easy threading-in of the paper and for smooth and uniform acceleration from threading-in speed to running speed, the winder is driven by a fluid-pressure motor, to which fluid under pressure is circulated by means of a variable delivery pump.—A. P.-C.

Selsyn Control for Paper Machines. F. M. Roberts. Paper Trade J. 95, No. 8, 18-20 (Aug. 25, 1932).—A description of the principle, construction and operation of the Selsyn speed regulator for sectional electric paper machine drives constructed by the General Electric Co.—A. P.-C.

Cutter for Tissue Paper. Ernest Huff assignor to American Lace Paper Co. U. S. pat. 1,867,884, July 19, 1932.—In a cutter for severing a web of thin paper, *e.g.*, in cutting paper napkins, the knife is rotated at the same linear speed as the web, while the shearing knife travels at a much higher speed. The shearing blades are yieldably cushioned by pads, and the trailing corner of the blade is at a slightly greater radius from the axis of rotation than the leading corner.—A. P.-C.

Book Paper Trade Customs

At a recent meeting of the book paper manufacturers of the United States revised book paper trade customs were adopted. A copy of the new rules is enclosed.

Subsequently the Committee, at the request of merchants, has set as January 1, 1933 the date for these customs to go into effect. The rules will apply to uncoated and coated two sides book paper in all markets in the United States.

A unique feature in the revised trade customs is the provision for stating separately upon the invoices the extra charges in the case of making orders and of light weights. This provision was made at the request of the merchants as an aid in policing the customs.

I. Standard Unit, and Sales Bases

A. One thousand (1,000) sheets shall constitute a standard unit of paper.

B. Five hundred (500) sheets shall constitute a standard ream of paper.

C. The basic size shall be 25 x 38 inches.

D. The minimum basic weights without extra charge shall be:

	1,000 sheets	500 sheets
Machine finished	90 lbs.	45 lbs.
Super calendered	100 lbs	50 lbs.
Coated one side	120 lbs.	60 lbs.
Coated both sides	140 lbs.	70 lbs.

E. The basic selling price shall be for paper packed for domestic use in ordinary wooden cases, with customary markers, or for paper similarly packed in skeleton frames.

F. As in some markets the 1,000 sheet count is used and in others the 500 sheet count is the basis, mills will arrange to mark cases or packages to show weights for either or both counts as requested.

Substance weights and weights of standard stock sizes are based upon the *500 sheet count.*

II. Regular Stock Weights and Sizes and Substance Numbers

A. Regular Substance Numbers. The following are established as regular standard substance numbers:

Machine Finish—30, 35, 40, 45, 50, 60, 70, 80, 100.
Supercalendered—40, 45, 50, 60, 70, 80, 100.
Coated—60, 70, 80, 90, 100, 120.

B. Regular Stock Sizes. The following are established as regular standard stock sizes and weights for uncoated and coated two sides book papers. Where the 1,000 sheet unit of count is used, the weights shown on the following pages are to be doubled:

UNCOATED AND COATED TWO SIDES BOOK PAPERS

Regular Sizes	*Weights								†		†
25 x 38	30	35	40	45	50	60	70	80	90	100	120
24 x 36	27	32	36	41	45	55	64	73	82	91	109
25 x 38	30	35	40	45	50	60	70	80	90	100	120
26 x 40	33	38	44	49	55	66	77	88	99	109	131
28 x 42	37	43	50	56	62	74	87	99	111	124	149
28 x 44	39	45	52	58	65	78	91	104	117	130	156
30½x41	39	46	53	59	66	79	92	105	118	132	158
32 x 44	44	52	59	67	74	89	104	119	133	148	178
33 x 44	46	53	61	69	76	92	107	122	138	153	183
35 x 45	50	58	66	75	83	99	116	133	149	166	199
36 x 48	54	64	72	82	90	110	128	146	164	182	218
38 x 50	60	70	80	90	100	120	140	160	180	200	240
41 x 61	78	92	106	118	132	158	184	210	236	264	316
42 x 56	74	86	100	112	124	148	174	198	222	248	298
44 x 64	88	104	118	134	148	178	208	238	266	296	356

* For the 1,000 sheet count above weights are to be doubled.
† Applies only to Coated Papers.

C. Any of the above sizes not regularly stocked by mill in the grade ordered, may be considered special sizes.

III. Making Orders

A. Orders for 2,000 pounds or more for one regular size, one color and regular substance weight may be made without extra charge.

B. Orders for 5,000 pounds or more for one irregular size and one regular color and substance weight shall be made without extra charge. Orders for 2,000 pounds to less than 5,000 pounds shall take an additional charge of not less than 5 per cent to be added to the selling price.

C. Orders for 10,000 pounds or more, for one regular size in an irregular substance weight, or for one irregular size in an irregular substance weight, shall be made without extra charge. If ordered in less quantity, an additional charge of not less than 5 per cent shall be added to the selling price for all orders of from 5,000 lbs. to less than 10,000 lbs.

D. Irregular substance weight will not be made in quantities of less than 5,000 pounds.

NOTE:—The application of extra charges for irregular size or irregular weight shall be based on the quantity ordered for one making and one shipment. All such extra charges shall appear on all invoices as additional charges.

IV. Additional Charge for Light Weights

Percentages of selling price, irrespective of packing, shall be added for each pound or fraction thereof below the minimum basic weight, as follows:

A. Machine Finished Papers. The minimum basic weight, without extra charge, of Machine Finish paper shall be 25 x 38—45 pounds—500 sheets. For lighter weights an additional charge on the 500 sheet basis shall be made and computed as follows:

Add 1 per cent of selling price for each pound or fraction thereof below 45 pounds down to and including 35 pounds.

Add 2 per cent of selling price for each pound or fraction thereof below 35 pounds down to and including 30 pounds.

Add 3 per cent of selling price for each pound or fraction thereof below 30 pounds down to and including 25 pounds.

EXAMPLE: Assuming paper at $10.00 per cwt.
Basis 45 lbs.—$10.00 per cwt.
Basis 35 lbs.—$11.00 per cwt. ($10.00 per cwt. plus 10 per cent—1 per cent per lb. from 45 lb. to 35 lb. basis weight).
Basis 30 lbs.—$12.00 per cwt. ($10.00 per cwt. plus 20 per cent—1 per cent per lb. from 45 lb. to 35 lb. and 2 per cent per lb. from 35 lb. to 30 lb basis weight).
Basis 25 lbs.—$13.50 per cwt. ($10.00 per cwt. plus 35 per cent—1 per cent per lb. from 45 lb. to 35 lb. and 2 per cent per lb. from 35 lb. to 30 lb. and 3 per cent per lb. from 30 lb. to 25 lb. basis weight)

For the 1,000 sheet unit, an additional charge shall be made for light weights computed upon a basis equivalent to that used for 500 sheets.

NOTE:—All extra charges as noted in the foregoing shall appear on all invoices to every purchaser, except that the method of billing on spot orders of 25 tons and more and yearly contract orders of 250 tons and more shall be optional.

B. Supercalendered. The minimum basic weight without extra charge, of Supercalendered paper, shall be 25 x 38—50 pounds—500 sheets. For lighter weights an additional charge shall be made and computed as follows:

Add one per cent of selling price for each pound or fraction thereof below 50 pounds down to and including 40 pounds.

Add 2 per cent of selling price for each pound or fraction thereof below 40 pounds down to and including 35 pounds.

Add 3 per cent of selling price for each pound or fraction thereof below 35 pounds down to and including 30 pounds.

EXAMPLE: Assuming paper at $10.00 per cwt.
Basis 50 lbs.—$10.00 per cwt.
Basis 40 lbs.—$11.00 per cwt. ($10.00 per cwt. plus 10 per cent—1 per cent per lb. from 50 lb. to 40 lb. basis weight).
Basis 35 lbs.—$12.00 per cwt. ($10.00 per cwt. plus 20 per cent—1 per cent per lb. from 50 lb. to 40 lb. and 2 per cent per lb from 40 lb. to 35 lb. basis weight).
Basis 30 lbs.—$13.50 per cwt. ($10.00 per cwt. plus 35 per cent—1 per cent per lb. from 50 lb. to 40 lb. and 2 per cent per lb. from 40 lb. to 35 lb. and 3 per cent per lb. from 35 lb. to 30 lb. basis weight).

For the 1,000 sheet unit, an additional charge shall be

made for light weights computed upon a basis equivalent to that used for 500 sheets.

NOTE:—All extra charges as noted in the foregoing shall appear on all invoices to every purchaser, except that the method of billing on spot orders of 25 tons and more and yearly contract orders of 250 tons and more shall be optional.

C. COATED TWO SIDES. The minimum basic weight without extra charge, of paper coated two sides, shall be 25 x 38—70 pounds—500 sheets. For lighter weights an additional charge shall be made and computed as follows:

Add 1 per cent of selling price for each pound or fraction thereof below 70 pounds down to and including 45 pounds.

Add 2 per cent of selling price for each pound or fraction thereof below 45 pounds down to and including 35 pounds.

EXAMPLE: Assuming paper at $10 00 per cwt.
Basis 70 lbs.—$10.00 per cwt.
Basis 45 lbs.—$12.50 per cwt. ($10.00 per cwt. plus 25 per cent—1 per cent per lb. from 70 lb. to 45 lb. basis weight).
Basis 35 lbs.—$14.50 per cwt. ($10.00 per cwt. plus 45 per cent—1 per cent per lb. from 70 lb. to 45 lb. and 2 per cent per lb. from 45 lb. to 35 lb. basis weight).

For the 1,000 sheet unit, an additional charge shall be made for light weights computed upon a basis equivalent to that used for 500 sheets.

NOTE:—All extra charges as noted in the foregoing shall appear on all invoices to every purchaser, except that the method of billing on spot orders of 25 tons and more and yearly contract orders of 250 tons and more shall be optional.

D. COATED ONE SIDE. The minimum basic weight without extra charge, of paper coated one side, shall be 25 x 38—60 pounds—500 sheets. For lighter weights an additional charge shall be made and computed as follows:

Add 1 per cent of selling price for each pound or fraction thereof below 60 pounds down to and including 40 pounds.

Add 2 per cent of selling price for each pound or fraction thereof below 40 pounds down to and including 35 pounds.

EXAMPLE: Assuming paper at $10.00 per cwt.
Basis 60 lbs.—$10.00 per cwt.
Basis 40 lbs.—$12.00 per cwt. ($10.00 per cwt. plus 20 per cent—1 per cent per lb. from 60 lb. to 40 lb. basis weight).
Basis 35 lbs.—$13 00 per cwt. ($10.00 per cwt. plus 30 per cent—1 per cent per lb. from 60 lb. to 40 lb. and 2 per cent per lb. from 40 lb. to 35 lb. basis weight).

For the 1,000 sheet unit, an additional charge shall be made for light weights computed upon a basis equivalent to that used for 500 sheets.

NOTE:—All extra charges as noted in the foregoing shall appear on all invoices to every purchaser, except that the method of billing on spot orders of 25 tons and more and yearly contract orders of 250 tons and more shall be optional.

V. Finishing Charges

A. SUPERCALENDERING. An additional charge of not less than 25 cents per cwt. over machine finish shall be made for supercalendering.

B. SPECIAL SIZING. An additional charge of not less than 25 cents per cwt. over the regular selling price shall be made for special sizing.

C. LAID. An additional charge of not less than 25 cents per cwt. over the regular selling price shall be made for Laid Book paper.

D. WATERMARKING. An additional charge of not less than 50 cents per cwt. over the regular selling price shall be made for watermarking book paper.

VI. Wrapping and Packing

(The basic selling price shall be for paper packed for domestic use in ordinary wooden cases, with customary ream markers, or for paper similarly packed in skeleton frames.)

A. If lapped in bundles—deduct 25 cents per 100 pounds.

A-1. If packed in flat bundles with cardboard top and bottom, deduct 10c per 100 pounds.

B. Packed on non-returnable skids.

UNCOATED PAPER. 3,000 lbs. or over, net per skid, deduct 25c per 100 lbs.

Less than 3,000 lbs. to 2,000 lbs. net per skid, deduct 15c per 100 lbs.

Less than 2,000 lbs., no deduction.

COATED PAPER. 2,500 lbs. or over, net per skid, deduct 15 cents per 100 lbs.

Less than 2,500 lbs., no deduction.

C. In rolls 250 lbs. up to 500 lbs., deduct 25 cents per 100 lbs.; 500 lbs. or heavier, deduct 50 cents per 100 lbs. In rolls of less than 250 lbs., no deduction.

D. If sealed in reams, add not less than 25 cents per 100 lbs.

E. For trimming, add not less than 10 cents per 100 lbs. for 2 sides and 15 cents per 100 lbs. for 4 sides.

F. There shall be an additional charge for export packing according to customer's requirements.

VII. Colors

An additional charge shall be made for all colors other than white or natural.

India and Ivory are not to be classed as natural.

VIII. Variations in Quantity Ordered

Overruns and underruns shall be accepted subject to the following pressible variations, which shall constitute a good delivery and be accepted by purchaser as such:

Less than 5,000 pounds—20 per cent over or under.
5,000 pounds and less than 10,000 pounds—19 per cent over or under.
10,000 pounds and less than 40,000 pounds—5 per cent over or under.
40,000 pounds and over—3 per cent over or under.

When orders carry a definite maximum or minimum limitation as to quantity such as (a) "not more than", or (b) "not less than", the percentage of variation allowable in each bracket shall be doubled. For example, an order for "not more than" 7,000 lbs. would permit a variation of 20 per cent under that amount. If the order was for "not less than" 7,000 lbs., the permissible variation would be 20 per cent over that quantity.

IX. Weights

A. WRAPPERS. Paper in rolls shall be billed at gross weight including wrappers, paper cores and plugs not exceeding 2½ per cent.

B. VARIATIONS. Paper shall be as close as possible to the weight ordered, subject to a variation in the nominal weight not exceeding 5 per cent above or below the ordered weight when between 45 pounds and 100 pounds basic weights, and 8 per cent when below 45 pounds or above 100 pounds basic weight. Paper within this range shall constitute a good delivery.

C. STENCILING. Paper shall be stenciled by the manufacturer with the weight ordered. There shall be no evasion by substituting letters or symbols for figures.

D. BILLING. Paper shall be billed at the ordered weight unless there is an average shortage in excess of 2½ per cent for uncoated or of 5 per cent for coated, in which case the paper shall be billed at the actual scale weight.

X. Cores

All returnable cores shall be charged and on a separate invoice if desired. Unless cores are returned within 120 days from the invoice date, they shall be paid for at the price charged net cash. When returned by the purchaser he shall be credited at the price charged, subject to the following conditions:

A. Fibre metal tipped cores may be returned to the manufacturer subject to inspection and acceptance.

B. Strawboard and chipboard cores shall not be returnable.

XI. Waste

A. Cores shall be stripped of all paper; no credit will be allowed for waste returned.

B. Printed waste shall not be returnable.

C. In billing paper there shall be no allowance for waste.

XII. Water or Surface Marking

Any purchaser desiring special watermarks shall pay

(Continued on page 42)

United Container Association's Activities

The regular bi-monthly meeting of the United Container Association, which was also its first anniversary meeting, was held at the Commodore Hotel, New York, on November 15 and 16. The largest attendance in the history of the association and the keenest interest in committee meetings and conference discussions featured the meetings. Associate membership applications were received from the Gummed Products Company, of Troy, Ohio; and S & S Corrugated Paper Machinery Company, Inc., of Brooklyn, N. Y.

Traffic matters were reported on in detail by the manager, including appearance at hearings of the Official Classification Committee of New York City, at which time proposed changes in Section 1 of Rule 41 were discussed. Since this hearing it has been learned that the proposed change, which would in effect allow shippers to make test shipments in experimental containers without the usual 20 per cent penalty, had been withdrawn from the docket for the time being at least. The association was represented at the hearing of the Consolidated Classification Committee at Chicago by Grafton A. Dodd.

Proposed Freight Agreement

The National Industrial Traffic League has appointed a committee which will endeavor to protect the interests of shippers and shipping container manufacturers, in connection with a proposed agreement with the Trans-Atlantic Associated Freight Conferences and the Export Fibreboard Case Association. According to the terms of this agreement the lines represented by the Trans-Atlantic Associated Freight Conferences would remove the 10 cents per 100 lbs. penalty from shipments consigned in corrugated and solid fibre containers bearing the stamp of the Export Fibreboard Case Association.

Details of the specifications adopted by the "EFCA" not being available, shipping container manufacturers are loathe to incur the expense of $2,500 initiation fee in addition to a tax of one-half cents per case for each container manufactured under the specifications. A. H. Campbell, general traffic manager, Southern Kraft Corporation, represents this association on the National Industrial Traffic League Committee.

The Standardization Committee conferred with J. M. Berry, chairman of the Committee of the National Purchasing Agents Association, Inc., relative to their request for details of the manufacture of liner board and other corrugating materials for guidance of purchasers of corrugated shipping containers. A sub-committee, consisting of Messrs. Olsson, Meyer, and Krannert, were appointed to cooperate with a similar committee from the Paperboard Industries Association in working out the proper answer to this inquiry.

The staff has contracted with the Trunk Line Freight Inspection Bureau in eliminating certain misbranding abuses which have interfered with the relations of some of the association's members with their customers. Very satisfactory cooperation was received from the bureau.

Unfavorable Conditions Discussed

The Cost and Statistical Committee discussed the unfavorable conditions which have arisen by the fact that, while the price of liner and corrugating materials has been increased during the past two months, the price of shipping containers has gone steadily downward. The committee will give this matter careful thought with a view to having constructive action to propose at the next meeting.

This committee had also before it a detailed proposal from one of the associate members for a survey and laboratory analysis of the members' requirements of printing inks. This analysis to be made with a view of standardization and consequent reduction of cost. This subject will be studied by the committee further and a report made at the January meeting.

A description of the plans of the "Century of Progress" Exposition, to be held in Chicago from May 1 to October 31, 1933, was given to the association by one of the members. These plans indicate that this industry will have an opportunity to enter an exhibition outlining its progress and development in a practical way.

Messrs. J. O. Hoerner, A. A. Light and Alan G. Goldsmith were appointed a nominating committee to prepare and present to the next meeting a slate of officers and executive committee for the year 1933.

Reorganization of Trade Associations Planned

The committee from this association, consisting of Messrs. Krannert, Kress, and Agar, which has been working with a similar committee appointed by the Paperboard Industries Association, consisting of Messrs. Dollison, Hubbard and Madsen, in planning a reorganization of the industries association setup, reported the progress of their work. This committee's recommendation to both associations is that the independent corrugators and independent containerboard mills at the present time members of the Paperboard Industries Association shall resign from that association and join the United Container Association. The combined mills and box plants shall resign from the Paperboard Industries Association and form an association of their own, the same action being taken by the folding box manufacturers. The combined Operators Association and the enlarged United Container Association will obtain traffic and statistical service from the Paperboard Industries Association to be operated under George R. Browder as president.

The details of this plan so far as the committee has worked them out were approved by the association and the committee was given power to complete its work in cooperation with the Paperboard Industries Committee at the close of the association meetings. The details of the final arrangements are to be submitted to the members of this association and of the Paperboard Industries Association by the joint committee, through the secretary of this association, who has been made secretary of the joint committee, in the form of a letter which the committee framed after the meetings, as follows:

"The important natural developments and physical changes which have been taking place in the Paperboard Industry during recent years call for a rearrangement at once of its association setup.

"The board and container industry naturally falls into two major groups by reason of these developments. One of these groups comprises those manufacturers producing Container board and/or Corrugating Materials, converting a portion of these products into Shipping Containers, and marketing such containers in competition with the manufacturers of the second group. The second group is made up of those who manufacture either Container board and/or Corrugating Materials only, together with those who manufacture Shipping Containers only. Manufacturers in this group do not convert the raw materials into the finished container, and are generally classified as Inde-

pendent Manufacturers. Experience has convinced everyone that these two groups have widely different problems and functions which cannot be studied and developed to advantage through the medium of one trade association any longer.

"Therefore, it is recommended that two separate and distinct associations be formed, with separate officers, staffs and offices. By reason of their common interests and problems, the members will find more freedom of discussion from which they will develop the type of service best suited to their needs.

"One association will be made up of the first group referred to above, namely, those units which operate both mills and container plants. No manufacturer eligible for membership in that association will be eligible to join, or sit in the meetings of the second association.

"The second organization will comprise those units which operate liner and/ or corrugating mills only, or container plants only. No manufacturer owning or controlling a Container Plant, who also controls or has ownership (other than through a nominal bond or stock ownership) in a mill operation will be eligible to membership in that group, nor will any manufacturer owning or controlling a Mill, who also controls or has ownership, (other than through a nominal bond or stock ownership) in a Container Plant, be eligible to membership in that group. This second group plans to carry on its association activities by joining the United Container Association, which has been working successfully under this very plan of operation. In addition this group will also embrace as associate members, manufacturers of Machinery, Tape, Silicate, Ink and other supplies used by Container board and Shipping Container Manufacturers.

"The present Paperboard Industries Association will become a Traffic and Statistical Bureau with a nominal staff, under the direction of Mr. George R. Browder as President, and will operate for the benefit of the members of the two associations of manufacturers as well as such others as the Folding Box Board and Folding Box Manufacturers groups. It will serve as a medium of contact between the different subscribing associations, on these functions.

"These two associations will enter into separate arrangements with the Paperboard Industries Association for its services, which will be rendered to the members individually. It is recommended that each association obtain and pay for only such services as it desires and none other. Such subscribing membership will permit the associations to elect representatives to sit on the Board of Directors of the Paperboard Industries Association to develop the activities and budget of that organization.

"Any member of either association will be privileged to belong to any other statistical reporting bureau that may operate in his particular territory or for the benefit of the products of his branch of the industry.

"In order to effect this reorganization it is proposed that the members of the present Paperboard Industries Association will resign therefrom and that those eligible for membership in the United Container Association, as described previously in this letter, will simultaneously make application for such membership, while those that are eligible for membership in the organization to be made up of manufacturers who have both mills and container plants, will apply for membership in whatever organization is formed for their benefit.

"It is hoped to make the United Container Association of the widest possible usefulness to every independent manufacturer in the industry and you can further this end by attending a meeting which will be held shortly after January 1st for the purpose of electing directors and officers and adopting a budget. Until this meeting is held the present associations will continue to function as they have in the past."

A joint luncheon of regular and associate members of the association was held on November 16 at noon and participated in by 21 representatives. At this luncheon a paper was read by Harry N. Knowlton, on "New Fields for Fibreboard Shipping Containers", and an informal talk was given by Norman F. Rehm, of "Fibre Containers", on a plan which he has devised for building up a table of differentials for corrugated shipping containers.

First Birthday Dinner Held

On Tuesday evening the first birthday dinner of the association was held in the breakfast room of the Commodore Hotel. Thirty representatives of member companies and guests participated in the dinner, President Kress presiding. The president in a few well chosen remarks referred to the very successful and satisfactory results of the first year's work and encouraged those present to still greater association activity, particularly in view of the larger opportunities ahead. A. A. Light, of the Corrugated Container Corporation, of Philadelphia, assisted by his son, gave a very interesting and mystifying exhibition of Magic. Following the dinner the group adjourned to the 46th St. Theatre to see a performance of "Of Thee I Sing". Many congratulations and good wishes were received from friends of the association on the progress it has made during the year.

Change in Program

It was decided in the future to change the program of the association's meeting so that all standing and special committees, including the executive committee, will meet on the first day, the general association meeting being held during the forenoon of the second day, followed by the luncheon of regular and associate members. This plan will make it possible to conclude the association's regular program early in the afternoon of the second day, and allow members to return to their homes much earlier than in the past.

BOOK PAPER TRADE CUSTOMS

(Continued from page 40)

the cost of dandy rolls or surface marking equipment, and no allowance shall be made therefor on account of the quantity of paper ordered. Such dandy rolls or surface marking equipment shall be considered the property of the purchaser.

XIII. Shipping Date

All "Make and Hold" orders shall specify a definite date for shipment at which date goods shall be billed and invoices taken to account by purchaser whether ordered shipped or not.

XIV. Claims

A. Defective paper must be reported and claims immediately entered so that it may be inspected before used.

B. A claim for loss or damage to goods in transit must be entered in conformity with the bill of lading.

C. No claim allowed after paper is cut, ruled or printed, or otherwise made commercially defective.

XV. Terms

Settlements for all sales shall be within 30 days. Thirty days shall be construed to mean 30 days from date of invoice, and where several invoices fall due in one month, 30 days from the average date of said invoices.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING DECEMBER 10, 1932

CIGARETTE PAPER

American Tobacco Co., Pr. Roosevelt, Havre, 100 cs.; Champagne Paper Corp., Pr. Roosevelt, Havre, 115 cs.; Champagne Paper Corp., Waukegan, Havre, 152 cs.; Champagne Paper Corp., Paris, Havre, 108 cs.; De Manduit Paper Corp., Paris, Havre, 121 cs.; American Tobacco Co., Paris, Havre, 458 cs.; Standard Products Corp., Paris, Havre, 83 cs.

WALL PAPER

Globe Shipping Co., Pr. Roosevelt, Havre, 7 bls.; Globe Shipping Co., Hamburg, Hamburg, 2 bls.; F. Blank, Hamburg, Hamburg, 3 cs.

NEWS PRINT

Parsons & Whittemore, Inc., Boschdyk, Rotterdam, 110 rolls; Perkins Goodwin & Co., Berlin, Bremen, 42 rolls; Jay Madden Corp., Berlin, Bremen, 153 rolls, Chase National Bank, Gripsholm, Gothenburg, 178 bls.; Bank of Montreal, P. T. Dodge, Cornerbrook, 3896 rolls; International Paper Co., P. T. Dodge, Dalhousie, 4079 rolls; Baldwin Paper Co., Hamburg, Hamburg, 92 rolls; Parsons & Whittemore, Inc., Hamburg, Hamburg, 167 rolls.

PRINTING PAPER

E. Dirtzgen & Co., Boschdyk, Rotterdam, 8 cs.; E. Dirtzgen & Co., Hamburg, Hamburg, 7 cs.; A. W Schmidt, Hamburg, Hamburg, 1 cs.

WRAPPING PAPER

C. Steiner, Hamburg, Hamburg, 1 bl., 7 cs.; D. E. Bordner, Hamburg, Hamburg, 4 rolls.

PARCHMENT PAPER

Bendix Paper Co. Hamburg, Hamburg, 5 cs.

DRAWING PAPER

S. Bienfang, Boschdyk, Rotterdam, 5 cs.; C. L. Voorhees, Waukegan, Havre, 10 cs.; H. Reeve Angel & Co., Inc., Amer. Banker, London, 1 cs.; D. F. Young, Paris, Havre, 2 cs.; Devoe & Reynolds Co., Paris, Havre, 2 cs.

FILTER PAPER

H. Reeve Angel & Co. Inc., Majestic, Southampton, 10 bls., 3 cs.; H. Reeve Angel & Co. Inc., Amer. Banker, London, 50 bls., 3 cs.

LITMUS PAPER

Pfalz & Bauer, Hamburg, Hamburg, 1 cs.

BARYTA COATED PAPER

Globe Shipping Co., Berlin, Bremen, 15 crates.

METAL COATED PAPER

Globe Shipping Co., Europa, Bremen, 66 cs.; K. Pauli Co., Hamburg, Hamburg, 27 cs.

SURFACE COATED PAPER

Phoenix Shipping Co., Hamburg, Hamburg, 3 cs.; Globe Shipping Co., Hamburg, Hamburg, 1 cs.

PHOTO PAPER

J. J. Murphy, Amer. Banker, London, 11 cs.

DECALCOMANIA PAPER

Sellers Transportation Co., Europa, Bremen, 8 cs.; Phoenix Shipping Co., Europa, Bremen, 1 cs.; B. F. Drakenfeld & Co., Scythia, Liverpool, 2 cs. (simplex); Sellers Transportation Co., Hamburg, Hamburg, 13 cs.

TRANSFER PAPER

F. L. Kramer & Co., Europa, Bremen, 32 cs.; Rohner Gehrig & Co., Europa, Bremen, 12 cs.

TISSUE PAPER

W. J. Byrnes, Majestic, Southampton, 3 cs.

STENCIL PAPER

G. M. Thurnauer, Amer. Banker, London, 1 cs.

COLORED PAPER

F. Murray Hill Co., Pr. Roosevelt, Hamburg, 2 cs.; F. Murray Hill Co., Hamburg, Hamburg, 4 cs.; International F'd'g Co., Hamburg, Hamburg, 1 cs., 4 bls .

ENVELOPES

Beckhard Simfred Co. Inc. Europa, Bremen, 17 cs.

WRITING PAPER

Van Oppen & Co., Amer. Banker, London, 1 cs.; Beckhard Simfred Co., Inc., Paris, Havre, 1 cs.; G. W. Sheldon & Co. Paris, Havre, 7 cs.

NOTE BOOKS

Keuffel & Esser Co., Pr. Roosevelt, Hamburg, 6 cs.

GUMMED PAPER

Meadows Wye & Co., Amer. Banker, London, 2 cs.; G. W. Sheldon & Co., Hamburg, Hamburg, 1 cs.

PAPER BOARDS

Saentis Inc., Boschdyk, Rotterdam, 61 cs.

IVORY BOARDS

F. S. Strype, Boschdyk, Rotterdam, 6 cs.; R. Wilson Paper Corp., Boschdyk, Rotterdam, 38 rolls, 25 cs.

MISCELLANEOUS PAPER

The Borregaard Co. Inc. Gripsholm, Gothenburg, 61 rolls, 47 cs.; E. H. Sergeant & Co., Gripsholm, Gothenburg, 3 cs.; Keller Dorian Paper Co., Paris, Havre, 2 cs.

RAGS, BAGGINGS, ETC.

Darmstadt Scott Courtney, Excelsior, Genoa, 48 bls. rags; G. M. Graves Co., Black Gull, Antwerp, 25 bls. flax waste; ——, Pr. Roosevelt, Hamburg, 174 bls. rags; Bank of New York, Estrella, Barcelona, 58 bls. rags; ——, Estrella, Barcelona, 133 bls. rags; M. Snedeker Corp., Clairton, Belfast, 137 bls. paper stock; E. J. Keller Co. Inc., Hamburg, ——, 25 bls. rags; E. J. Keller Co. Inc., Scanstates, ——, 65 bls. rags; E. J. Keller Co. Inc., Giulia, ——, 104 bls. rags; ——, Giulia, ——, 107 bls. rags.

CASEIN

American Cyanamid & Chem. Corp., W. World, B. Ayres, 20 bags, T. M. Duche & Sons, Swinbourne, B. Ayres, 417 bags.

GLUE STOCK, ETC.

——, Berlin, Bremen, 200 bags hide glue; ——, Hamburg, Hamburg, 174 bags, hide glue; ——, Hamburg, Hamburg, 50 bags bone glue; N. L. Lederer, Inc., Boschdyk, Rotterdam, 200 bags bone glue.

OLD ROPE

W. Steck, Co., Boschdyk, Rotterdam, 49 coils; W. Steck, Co., Black Gull, Antwerp, 85 coils; ——, Estrella Barcelona, 38 coils; ——, Black Falcon, Rotterdam, 65 coils; ——, Hamburg, Hamburg, 79 coils; E. J. Keller Co. Inc., Hamburg, ——, 15 bls.

WOOD PULP

Castle & Overton, Inc, Boschdyk, Rotterdam, 170 bls. wood pulp; Parsons & Whittemore, Inc., Gripsholm, Gothenburg, 408 bls. sulphite; Johaneson Wales & Sparre, Inc., Gripsholm, Gothenburg, 600 bls. sulphite; E. M. Sergeant & Co., Gripsholm, Gothenburg, 897 bls. kraft soda; Gottesman & Co. Inc., Gripsholm, Gothenburg, 1200 bls. sulphite, 250 bls. sulphite; Bulkley Dunton & Co., Gripsholm, ——, 500 bls. chemical; Castle & Overton, Inc., Black Falcon, Rotterdam, 110 bls. wood pulp, 22 tons; Castle & Overton, Inc, Hamburg, Hamburg, 980 bls. wood pulp, 196 tons; Gottesman & Co. Inc., Greisheim, Sweden, 3750 bls. wood pulp.

BALTIMORE IMPORTS

WEEK ENDING DECEMBER 10, 1932

St. George Co., Boschdyk, Rotterdam, 204 coils old rope; National City Bank, Boschdyk, Rotterdam, 50 bls. rags, 43 bls. bagging; Congoleum Nairn Co., Waukegan, Havre, 598 bls. rags; W. H. Masson, Clairton, Dublin, 186 bls. waste paper; Gottesman & Co. Inc., Greisheim, Sweden, 1900 bls. wood pulp; Gottesman & Co. Inc., Tortugas, Finland, 300 bls. wood pulp; Gottesman & Co. Inc., City of Baltimore, Latvia, 508 bls. wood pulp.

NORFOLK IMPORTS

WEEK ENDING DECEMBER 10, 1932

Chase National Bank, Boschdyk, Rotterdam, 506 bls. bagging; R. J. Reynolds Tobacco Co., Boschdyk, Rotterdam, 1016 cs. cigarette paper.

PHILADELPHIA IMPORTS

WEEK ENDING DECEMBER 10, 1932

Castle & Overton, Inc., Estrella, Barcelona, 39 bls. rags; E. Butterworth & Co. Inc., Excelsior, Genoa, 318 bls. glue stock; ——, Sardinian Prince, London, 159 coils old rope; E. J. Keller Co. Inc., Indep. Hall, ——, 57 bls. rags; E. J. Keller Co. Inc., Boschdyk, ——, 95 bls. rags; Gottesman & Co. Inc., Kelkheim, Sweden, 10,000 bls. wood pulp.

PORTLAND IMPORTS

WEEK ENDING DECEMBER 10, 1932

Gottesman & Co. Inc., Mexicano, Sweden, 5900 bls. wood pulp; Gottesman & Co. Inc., Sparreholm, Sweden, 1500 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING DECEMBER 10, 1932

Castle & Overton, Inc., Boschdyk, Rotterdam, 685 bls. wood pulp; F. J. Fawcett, Black Gull, Antwerp, 140 bls. flax waste; American Express Co., Black Gull, Antwerp, 30 rolls wrapping paper; E. J. Keller Co. Inc., Black Gull, ——, 90 bls. bagging; 1st Natl Bank of Boston, Amer. Banker, London, 161 bls. waste paper; G. M. Graves Co., Amer. Banker, London, 106 coils old rope; Crocker Burbank Co., Amer. Banker, London, 186 bls. waste paper; Smith Paper Co., Amer. Banker, London, 38 bls. rags; Brown Bros. Harriman & Co., Amer. Banker, London, 89 bls. rags; Atkinson Haserick Co., Pr. Polk, Genoa, 6 cs. paper; ——, Atlantic, Vancouver, 2850 bls. wood pulp, 500 tons; E. J. Keller Co. Inc., Cold Harbor, ——, 40 bls. bagging; Gottesman & Co., Inc., Sparreholm, Sweden, 480 bls. wood pulp.

ASKS BIDS ON PAPER

(Continued from page 11)

to take no action until there is better agreement as to the value of the recommended changes.

This schedule embraces 184 lots, being three more than the number called for in the schedule for 1932-33. The quantity estimated for the full year, beginning March 1, 1933, is 42,000,000 pounds, as compared with 53,100,000 pounds for the previous contract period.

Following are the quantities of various kinds of paper on which bids will be asked;

3,000,000 pounds news print paper.
7,870,000 pounds machine-finish book paper.
125,000 pounds antique book paper.
275,000 pounds light-weight machine-finish book paper.
450,000 pounds 50 per cent rag machine-finish book paper.
80,000 pounds 75 per cent rag laid antique book paper.
60,000 pounds 100 per cent rag M.F. book paper.
2,830,000 pounds supercalendered book paper.
100,000 pounds halftone book paper.
390,000 pounds coated book paper.
60,000 pounds lithograph paper.
1,580,000 pounds mimeograph paper.
600,000 pounds U S M O safety writing paper.
20,000 pounds U S M O writing paper.
6,000 pounds safety writing paper.
3,378,500 pounds writing paper.
610,000 pounds map paper.
835,000 pounds manifold paper.
4,760,000 pounds bond paper.
820,000 pounds ledger paper.
468,000 pounds index paper.
5,000 pounds tissue paper.
385,000 pounds cover paper.
670,000 pounds manila paper.
860,000 pounds kraft paper.
200,000 pounds manila tag board.
1,150,000 pounds calendered tag board.
80,000 pounds manila cardboard.
155,000 sheets railroad board.
680,000 pounds bristol board.
8,000,000 pounds U. S. Postal Card bristol board.
3,000 pounds paraffin paper.
155,000 sheets gummed paper.
206,000 pounds blotting paper.
7,000 pounds stereotype molding paper.
30,000 pounds oiled manila tympan paper.
2,000 pounds plate-wiping paper.
4,000 pounds back-lining paper, for case making.
25,000 pounds high finish red sulphite.
30,000 sheets pressboard.
3,000 pounds news board.
650,000 pounds chip and straw board.
36,000 pounds marble grained board.
50,000 pounds box board.
670,000 pounds binders board.

In cases where more than 1,000 reams are called for, proposals will be received for 1,000 reams or more.

Varieties of Envelopes Required

Bids will be received at the same time for the following quantities of envelopes;

30,155,000 Kraft.
7,835,000 Writing, Sulphite, White and Colored.
110,000 Fine Writing, White and Colored.
430,000 Ledger, White.
850,000 Bond, 50 per cent Rag, White.
198,000 Bond, 100 per cent Rag, White.

1864 1932

"EXCELSIOR" FELTS

for every grade of

PULP AND PAPER

We continue to maintain at the top the quality of Excelsior Felts, as we have done since we, as pioneers, made the first endless paper machine felts manufactured in America

Seamless felts for fast running.
Satin Style felts for finish.
Special felts to meet every condition.
Send us your felt problems.

KNOX WOOLEN COMPANY
CAMDEN, MAINE

SOLD BY
BULKLEY, DUNTON & COMPANY
75-77 Duane St., N. Y., and direct

WOOD PULP AGENTS

PRICE & PIERCE, Ltd.,

60 EAST 42nd ST.
NEW YORK

West Virginia Pulp and Paper Company

Manufacturers of

SUPERCALENDERED
and
MACHINE FINISHED BOOK
and LITHOGRAPHIC
PAPERS

Offset, Envelope, Bond, Writing, Cover and Music Paper, Index Bristol, Post Card and Label Papers

High Grade Coated Book

also

KRAFT WRAPPING AND KRAFT ENVELOPE

Bleached Spruce Sulphite Pulp, Soda and Kraft Pulp

230 Park Ave. New York — 35 East Wacker Drive Chicago
503 Market St., San Francisco, Cal.
Sixth and Chestnut Sts., Philadelphia, Pa.

Users Say

do Last Longer

To back up our claims for Asten Asbestos Felts we have had impartial "Performance Surveys" made in various paper mills. Copies of these "surveys" will be gladly sent to you. Also, we would be glad to send you copies of letters received from other mills. After all, users' opinions are the best recommendations.

Made in U. S. A.

ASTEN-HILL

Manufacturing Company
Philadelphia

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, December 14, 1932.

Trading in the local paper market was light during the past week. Demand for the various standard grades of paper is restricted. The movement of supplies into consumption is rather slow. Inquiries for future needs are limited. The opinion is expressed, in some quarters, that conditions will not improve until after the turn of the year.

Consumption of news print is fairly satisfactory, although below the level of the corresponding period of the preceding year. Production of news print paper in the United States and Canada is still being maintained in sufficient volume to take care of current requirements. Accumulations are not excessive. The price situation continues unchanged.

The paper board market is fairly active for the time being. Box board production is being maintained at approximately 55 per cent of capacity. No radical changes have been reported in the fine paper market. Tissues are going forward in good volume. The coarse paper market is irregular and kraft wrapping quotations continue weak.

Mechanical Pulp

Demand for both domestic and imported ground wood pulp is slightly better since the recently revised prices were announced. Offerings are about sufficient to cope with current requirements. There are no undue accumulations and the statistical position of the industry is fairly sound. The contract movement is seasonal.

Chemical Pulp

The chemical pulp market is quiet. It is confidently expected, however, that trading will become more active following the conclusion of the holiday period. No. 1 imported kraft pulp is now quoted at from $1.25 to $1.40 and No. 2 imported kraft pulp at from $1.10 to $1.15, both on dock, Atlantic ports. Quotations on other grades are unaltered.

Old Rope and Bagging

Dullness prevails in the old rope market. Paper mill demand for both domestic and imported old manila rope is restricted. Small mixed rope is listless. Old rope quotations are easier than of late. The bagging market is only moderately active. Demand for scrap and gunny bagging is spotty. Roofing bagging is listless. Prices are weak.

Rags

Most of the business transacted in the domestic rag market during the past week was along routine lines. Paper mill demand for the various grades of cotton rags is light. Roofing grades are fairly steady. Domestic rag prices are strictly nominal. There have been no further changes reported in the foreign rag market of late.

Waste Paper

Board mill demand for the lower grades of paper stock has slackened off. Offerings are limited, however, and prices fairly steady. Interest in the better grades of waste paper is well sustained. White envelope cuttings and soft white shavings are firm, with quotations holding up very well. Book stock is quiet, but generally steady.

Twine

Conditions in the local twine market are practically unchanged. Demand for holiday requirements is fairly brisk, considering general business conditions, and shipments are moving in good volume. Offerings are ample to meet the prevailing request. Despite reports of shading on extra desirable business, the price situation is satisfactory.

Bids and Awards for Government Paper

WASHINGTON, D. C., December 14, 1932—The Government Printing Office has announced the following paper awards:

R. P. Andrews Paper Company will furnish 3,000 pounds of 75 per cent rag blue ledger paper at $375.00, bids for which were received on November 11.

Reese & Reese, Inc., will furnish 2,850 pounds of 25 x 30, 95 lbs., offset paper at 5.47 cents per pound, bids for which were received on November 4.

The Whitaker Paper Company will furnish 36,000 pounds of 24½ x 38 chip board at 11.74 cents per pound and the R. P. Andrews Paper Company will furnish 5,000 sheets of gray pressboard at $162.48 per M. Bids for both of these items were received on October 26.

The R. P. Andrews Paper Company will also furnish 3,000 sheets of 22 x 28 gray photo mount board at 4.8 cents per sheet, bids for which were received on October 19.

The Rogers Printing Company will furnish 40,000 pounds of 28½ x 34½ chip board at 1.2 cents per pound, bids for which were received on October 12.

Reese & Reese, Inc., will also furnish 4,030 sheets of 22 x 28 buff cardboard at $49.92 per M sheets, bids for which were received on October 3.

The Printing Office has received the following bids for 10,000 pounds of 32½ x 42½ chip board; Bartgis Brothers Company, 1.375 cents per pound less 1 per cent; Consolidated Paper Company, 2.5 cents; Old Dominion Paper Company, 1.37 cents; R. P. Andrews Paper Company, 1.34 cents; Barton, Duer & Koch Paper Company, 1.35 cents; Virginia Paper Company, 1.35 cents; Whitaker Paper Company, 1.3165 cents; Walker Goulard Plehn Company, 1.3435 cents less 1 per cent; Mathers-Lamm Paper Company, 1.3365 cents; and C. L. LaBoiteaux Company, 1.375 cents.

Philadelphia Trade Notes

A. B. Kehr, secretary of the Enterprise Paper Company and Paramount Paper Products Company, had a very vivid story to tell of his very recent air plane trip to Pittsburgh, Chicago, Milwaukee and Wisconsin.

Joseph Weaver, manager of the Wrapping Paper Department of Garrett-Buchanan Company, has been on the sick list but is expected to return to his duties during the forthcoming week.

B. M. Thomas, general manager of the Container Corporation, Manayunk, Philadelphia, is expected to return to his duties this week, after having been ill for a week.

MORE REPEAT ORDERS

Another plant of one of the leading manufacturers of straw products is being equipped with a 5′ x 12′ Marcy Open End Rod Mill, the fifth Marcy Mill for this company. Repeat orders mean proof of superior performance, of decreased beating costs and increased profits.

Specific inquiries are invited.

MARCY OPEN-END ROD MILLS

for Perfect Beating of Every Type of Stock

1. **Positively reduce power costs.**
2. **Absolute control under all conditions.**
3. **Maximum preservation of initial strength.**
4. **Preserve full fibre length.**
5. **Positive separation of fibre bundles.**
6. **Positively no unbeaten stock bypassed.**

Send us a sample of your untreated pulp and we will send you proof.

PAPER MILL DIVISION

The MINE and SMELTER SUPPLY COMPANY

Denver, Colorado

Our Trade Mark

represents quality and service developed by half a century's laboratory and manufacturing experience.

For your own insurance be sure that our Trade Mark appears on your packages.

HELLER & MERZ CORPORATION

90 West Street, New York, N. Y.

BOSTON 35 Hartford St. **CHICAGO** 146 W. Kinzie St. **SPRINGFIELD, MASS.** 40 Albert St.

PHILADELPHIA—South St. and Delaware Ave.

Factories—Newark, N. J. and Bound Brook, N. J.

A UNIT OF AMERICAN CYANAMID COMPANY

88 YEARS EXPERIENCE

In Making

Felts for Paper Manufacturers certainly recommends our ability to satisfactorily serve your requirements.

OUR TRIUNE AND MULTIPLE PLY DRYER FELTS

English Weave—Fine Face Felt in Three, Four, Five and Six Ply—60″ to 214″ in width—insure large production. Absolutely no felt marks in paper.

FITCHBURG DUCK MILLS

Established 1844

FITCHBURG, MASS.

THE CLARK-AIKEN CO.

Successors to
H. C. Clark & Son Machine Co.

PAPER MILL MACHINERY

LEE, MASS.

Revolving Paper Cutters—Rag Cutters—Cylinder Paper Machines—Washing and Beating Engines—Chilled Iron and Paper Calenders—Fan and Stuff Pumps—Engine Roll Bars and Bed Plates—Cylinder Molds—Marshall Drives—Slitters and Rewinders—Reels—Dryers with Improved Packing Boxes—Wet Machines—Gun Metal and Rubber Rolls—Rolls Reground.

Dietz Towel Interfolding Machines
also

TOILET PAPER MACHINES

For making Toilet and Paper Towel Rolls
(With or without perforations)

AUTOMATIC TUBE MACHINES

For Making Wire-Stitched Toilet Tubes

Sanitary Crepe Towel Machines, Roll Tighteners, Slitting and Rewinding Machines, Drop Roll Slitting Machines, Photo Mount Beveling Machines, Rotary Card Cutting Machines, etc.
Correspondence solicited

DIETZ MACHINE WORKS

126-128 W. Fontaine Street
Cor. Waterloo St. (between Front & Second Sts.)
and below Diamond St.
Phila., Penna., U. S. A.

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, December 14, 1932.

BLANC FIXE.—The position of the blanc fixe market is practically unchanged. Prices are holding to schedule. The pulp is quoted at from $42.50 to $45.00 per ton, in bulk; while the powder is selling at from 3½ cents to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—Demand for bleaching powder is moderately active. Shipments against contract are moving in fair volume. Prices are holding to formerly quoted levels. Bleaching powder is quoted at from $1.75 to $2.00 per 100 pounds, in drums, at works.

CASEIN.—The casein market continues quiet but steady. Domestic standard ground is quoted at 7 cents and finely ground at 8 cents per pound. Argentine standard ground is selling at 8 cents and finely ground at 8½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Conditions in the caustic soda market are fairly satisfactory. Prices are holding to schedule. Solid caustic soda is quoted at from $2.55 to $2.60; while the flake and the ground are selling at from $2.95 to $3.00 per 100 pounds, in large drums, at works.

CHINA CLAY.—The China clay market continues fairly active. Contract shipments are moving with regularity. Imported china clay is quoted at from $10 to $15 per ton, ship side; while domestic papermaking clay is selling at from $5 to $12 per ton, at mine.

CHLORINE.—Steadiness prevails in the chlorine market. The contract movement is well up to average. Prices are slightly firmer. Chlorine is now quoted at from $1.55 to $1.65 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market fluctuated slightly during the week. Grades of gum rosin used in the paper mills are quoted at from $3.60 to $3.80 per 280 pounds, in barrels, at works. Wood rosin is selling at $2.60 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Paper mill demand for salt cake is fairly persistent. Prices are steady. Salt cake is quoted at from $15 to $16; chrome salt cake at from $12 to $13 per ton, in bulk, at works; while imported salt cake is selling at from $14 to $15 per ton, ship side.

SODA ASH.—The soda ash market is exhibiting a sound undertone. Contracts for the coming year are being booked in good volume. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.05; in bags, $1.30; and in barrels, $1.43.

STARCH.—Most of the business transacted in the starch market during the past week was along routine lines. Prices remain unchanged. Special paper making starch is quoted at $2.19 per 100 pounds, in bags; and at $2.46 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Business in the sulphate of alumina market is holding up well. Prices remain unchanged. Commercial grades are quoted at from $1.25 to $1.40; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market continues steady. Sulphur is quoted at $18 per long ton, on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and nearby car loads, the quotation is $21 per ton.

TALC.—Supplies of talc are going forward to the paper mills in fairly satisfactory volume. Prices are steady. Domestic talc is quoted at from $16 to $18 per ton, in bulk, at mine; while imported talc is selling at from $18 to $22 per ton, in bags, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@	38.00
Bonds	4.50	@	53.25
Index	6.00	@	12.00
Writings—			
Extra Superfine	6.50	@	15.00
Superfine	6.25	@	14.75
Tub sized	4.50	@	7.00
Engine sized	4.00	@	5.00
Book, Cased—			
S. & S. C.	5.25	@	—
M. F.	3.75	@	5.00
Coated and Enamel	6.25	@	9.75
Lithograph	6.75	@	11.25
Tissues—Per Ream—			
White No. 1	.50	@	.70
Anti-Tarnish M. G. only	.65	@	.70
Colored	.70	@	.90
White No. 2	.55	@	.60
Kraft	.65	@	.70
Manila	.55	@	.60
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	3.37½	@	—
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.00	@	3.00
Card Middles	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs., No. 1	.09¼	@	—
No. 2	.11¼	@	—
Bleached, basis 20 lbs.	.11¼	@	—

(Delivered New York)

News, per ton—			
Roll, contract	45.00	@	—
Rolls, spot	45.00	@	—
Sheets	50.00	@	—
Side Runs	30.00	@	35.00
Kraft—			
No. 1 Domestic	4.50	@	4.75
No. 2 Domestic	2.37½	@	2.75
Southern	2.25	@	2.50
Imported	2.75	@	3.50
Boards—per ton—			
News	27.50	@	30.00
Straw	29.50	@	31.50
Chip	25.00	@	27.50
Binders' Boards	62.00	@	70.00
Kraft Liner	40.00	@	45.00
Standard 85 Test Jute Liner	27.00	@	29.50
Sgl. Mla. Ll. Chip	37.50	@	40.00

(F. o. b. Mill)

Wood Pulp Boards	70.00	@	80.00

Mechanical Pulp

(On Dock)

No. 1 Imported—			
Moist	16.00	@	18.00
Dry	17.00	@	20.00

(F. o. b. Mill)

No. 1 Domestic	16.00	@	22.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—			
Bleached	1.80	@	2.25
Easy Bleaching	1.60	@	1.75
No. 1 strong unbleached	1.35	@	1.60
Mitscherlich unbleached	1.55	@	1.75
No. 2 strong unbleached	1.25	@	1.35
No. 1 Kraft	1.25	@	1.40
No. 2 Kraft	1.10	@	1.15
Sulphate—			
Bleached	1.85	@	2.15

(F. o. b. Pulp Mill)

Sulphite (Domestic and Canadian)—			
Bleached	1.75	@	3.75
Easy Bleaching	1.75	@	1.90
News	1.40	@	1.65
Mitscherlich unbleached	2.00	@	2.55
Kraft (Domestic)	1.25	@	2.75

(Delivered Paper Mills)

Soda Bleached	2.00	@	—

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	4.00	@	4.25
New White, No. 2	3.00	@	3.25
Silesias No. 1	3.75	@	4.00
New Unbleached	5.50	@	6.00
New Soft Blacks	2.75	@	3.00
Blue Overall	3.00	@	3.50
Fancy	1.50	@	1.75
Washables	1.15	@	1.40
Mixed Khaki Cuttings	2.50	@	3.00
Pink Corset Cuttings	2.75	@	3.25
O. D. Khaki Cuttings	3.00	@	3.25
Men's Corduroy	1.00	@	1.25
New Mixed Blacks	2.25	@	2.50

Old Rags

White, No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.00	@	2.25
White, No. 2—			
Repacked	1.75	@	2.00
Miscellaneous	1.50	@	1.75
Thirds and Blues—			
Repacked	1.50	@	1.75
Miscellaneous	1.00	@	1.25
Black Stockings	2.00	@	2.25
Roofing Rags—			
No. 1	.53	@	.58
No. 2	.48	@	.53
No. 3	.43	@	.48
No. 4	.38	@	.43
No. 5A	.33	@	.38

Foreign Rags

New Rags

New Dark Cuttings	1.40	@	1.50
New Mixed Cuttings	1.60	@	1.75
New Light Silesias	3.00	@	3.25
Light Flannelettes	2.50	@	2.75
Unbleached Cuttings	4.75	@	5.25
New White Cuttings	4.00	@	4.25
New Light Oxfords	3.00	@	3.25
New Light Prints	1.85	@	2.25

Old Rags

No. 1 White Linens	5.25	@	5.50
No. 2 White Linens	4.50	@	4.75
No. 3 White Linens	3.25	@	3.75
No. 4 White Linens	1.75	@	2.25
No. 1 White Cotton	3.50	@	3.75
No. 2 White Cotton	2.75	@	3.25
No. 3 White Cotton	2.25	@	2.50
No. 4 White Cotton	1.40	@	1.50
Extra Light Prints	1.80	@	2.00
Ord. Light Prints	1.60	@	1.75
Med. Light Prints	1.40	@	1.55
Dutch Blue Cottons	1.35	@	1.40
French Blue Linens	1.80	@	1.90
German Blue Linens	1.70	@	1.80
German Blue Cottons	1.20	@	1.25
Checks and Blues	1.25	@	1.30
Lindsay Garments	.75	@	.80
Dark Cottons	.70	@	.75
Old Shopperies	.55	@	.60
New Shopperies	.60	@	.65
French Blues	1.25	@	1.30

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	.90	@	1.00
Domestic	1.00	@	1.10
Wool Tares, light	.70	@	.80
Wool Tares, heavy	.70	@	.80
Bright Bagging	.70	@	.75
Small Mixed Rope	.59	@	.60
Manila Rope—			
Foreign	1.35	@	1.40
Domestic	1.40	@	1.50
New Burlap Cut	1.00	@	1.50
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	1.70	@	1.80
Ordinary Hard White No. 1	1.55	@	1.65
Hard White No. 2	1.30	@	1.40
Soft White No. 1	1.40	@	1.50
Flat Stock—			
Stitchless	.55	@	.65
Overissue Mag	.55	@	.65
Solid Flat Book	.50	@	.55
Crumpled No. 1	.40	@	.45
Solid Book Ledger	1.50	@	1.75
Ledger Stock	.45	@	.55
New B. B. Chips	.20	@	.25
Manilas—			
New Env. Cut	1.25	@	1.35
New Cuttings	1.00	@	1.05
Extra No. 1 old	.80	@	.90
Print	.35	@	.40
Bogus Wrapper	.30	@	.35
Container	.25	@	.30
Old Kraft Machine—			
Compressed bales	.75	@	.85
News—			
No. 1 White News	1.05	@	1.15
Strictly Overissue	.50	@	.55
Strictly Folded	.40	@	.45
No. 1 Mixed Paper	.17½	@	.22½

CASEIN

CASEIN-CO
A BORDEN PRODUCT
BRAND

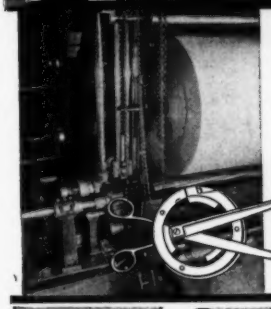
ANY GRADE
ANY QUANTITY

THE CASEIN MFG. COMPANY OF AMERICA, Inc.

205 E. 42nd St. New York, N. Y.

Oldest and Largest Producers of Casein in America

LANGSTON SLITTERS

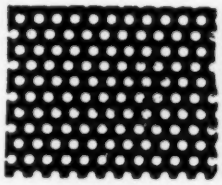


NOTED for producing firm, tightly wound rolls with straight, dust-free edges, Langston Slitters combine high-quality production with low operating costs.

Samuel M. Langston Co., Camden, N. J.

Perforated Metal Screens

For Pulp and Paper Mills

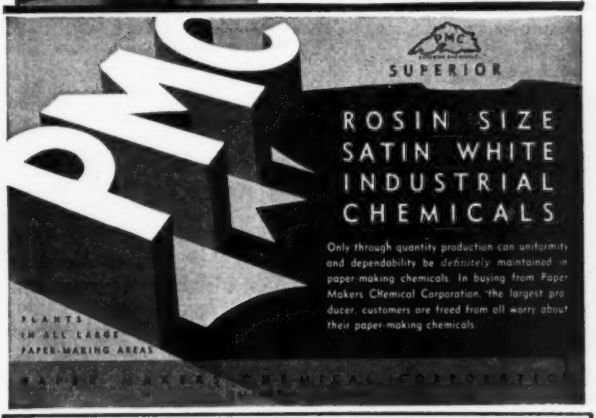


STEEL, COPPER, BRASS, BRONZE, MONEL METAL and other Alloys punched for Centrifugal and Rotary Screens, Pulp Washers, Drainer Bottoms, Filter Plates, etc.

".065" Round

CHARLES MUNDT & SONS

63-65 FAIRMONT AVE. JERSEY CITY, N. J.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SUPERIOR
ROSIN SIZE
SATIN WHITE
INDUSTRIAL
CHEMICALS
Only through quantity production can uniformity and dependability be definitely maintained in paper-making chemicals. In buying from Paper Makers CHemical Corporation, the largest producer, customers are freed from all worry about their paper-making chemicals
PLANTS IN ALL LARGE PAPER-MAKING AREAS

PERMANENT COLORS

Browns Greens Reds Yellows

BROWNS
Oxides of Iron
Turkey Umbers

GREENS
Chromic Oxides
Guignet's Green

REDS
All types and shades of Oxides of Iron

YELLOWS
Ochres
Iron Hydroxides

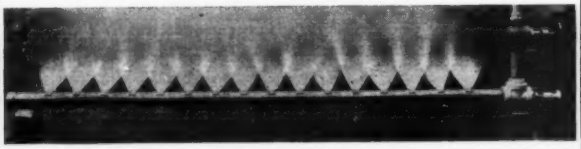
Asbestines and Talcs for Fillers

C. K. WILLIAMS & CO.

EASTON, PA.

"M & W" CRISS CROSS SHOWER PIPES

"WILL NOT RIDGE THE WIRES OR MAKE STREAKS"



FOR PAPER MACHINE WIRES, FELTS AND SCREENS

THE MOORE & WHITE COMPANY

Paper Mill Machinery Philadelphia, U. S. A.

CLINTON STARCHES

Special Grades for Beater and Top Sizing

Manufactured by

CLINTON CORN SYRUP REFINING COMPANY

CLINTON, IOWA

QUALITY SERVICE

Twines
(F. o. b. Mill)

Cotton—			
B. C., 18 basis	.30	@	.32
No. 1	.20	@	.22
No. 2	.19	@	.20
No. 3	.17	@	.18
A. Italian, 18 basis	.36	@	.37
Finisned Jute—			
Dark, 18 basis	.18	@	.20
Light, 18 basis	.20	@	.22
Jute Wrapping, 3-6 Ply—			
No. 1	.15½	@	.16½
No. 2	.11¾	@	.12¾
Tube Rope—			
4-ply and larger	.10¼	@	.10¾
Fine Tube Rope—			
4-ply	.12½	@	.12¾
3-ply	.13¼	@	.13¾
2-ply	.14¼	@	.14¾
Paper Makers Twine			
Balls	.09½	@	.11¼
Box Twine, 2-3 ply	.11¼	@	.12¾
Jute Rope	.09	@	.10
White Hemp	.12½	@	.12¾
Java Sisal—			
No. 1 Basis	.10	@	—
No. 2 Basis	.09	@	—
New Zealand Sisal	.10	@	—
Sisal Lath Yarn—			
No. 1	.12	@	.14
No. 2	.10	@	.12
Manila Twine	.23	@	.28

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.04	@	.11
Superfine Writing	.18	@	.24
No. 1 Fine Writing	.14	@	.18
No. 2 Fine Writing	.12	@	.14
No. 3 Fine Writing	.07	@	.18
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¼	@	.07¼
No. 2 S.&S.C. Book	.05¼	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¼
No. 1 Fibre	.04¼	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¼	@	.03¾
No. 1 Kraft	3.50	@	4.50
Southern Kraft	2.62½	@	—
No. 2 Kraft	2.62½	@	—
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¾
Manila Tissue	.07	@	.07¼
White Tissue	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	45.00	@	—
Sheets	50.00	@	—
Boards, per ton—			
Plain Chip	27.50	@	—
Solid News	30.00	@	—
Manila Lined Chip	37.50	@	—
Patent coated	47.50	@	—
Container Lined—			
85 Test	50 00	@	55.00
100 Test	55.00	@	60.00

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope cuttings	1.50	@	1.55
No. 1 Hard White	1.40	@	1.45
No. 1 Soft White	1.00	@	1.10
Ledger & Writings	.45	@	.55
Solid Books	.25	@	.30
Blanks	1.00	@	1.05
Krafts	.70	@	.80
New Kraft Cuts	1.15	@	1.25
Manila Env. Cuts	1.25	@	1.30
Ex. No 1 Manila	.90	@	1.00
Print Manila	.30	@	.35
Overissue News	.30	@	.35
Old Newspapers—			
No. 1	.25	@	.30
Mixed Papers—			
No. 1	.15	@	.20
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.04	@	.40
Ledgers	.06	@	.40
Writings—			
Superfine	.10	@	.18
Extra Fine	.15	@	.26
Fine	.15	@	.26
Fine, No. 2	.10	@	.25
Fine No. 3	.05½	@	.18
Book, M. F.	.04¾	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.06	@	.16
Coated Lithograph	.06	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.06	@	.09
Manila Sul., No. 1	.03	@	.05
Manila No. 2	.03	@	.04
No. 1 Kraft	.05¼	@	.06
No. 2 Kraft	.03¼	@	.04¼
Southern Kraft No. 1	—	@	.03¾
Southern Kraft No. 2	—	@	.02¾
Common Bogus	.03	@	.04
(Delivered Philadelphia)			
News Print Rolls	46.00	@	—
Straw Board	32.00	@	—
News Board	30.00	@	—
Chip Board	30.00	@	—
Wood Pulp Board	70.00	@	80.00
Binder Boards—			
No. 1, per ton	73.00	@	75.00
No. 2, per ton	62.00	@	65.00
Carload lots	60.00	@	65.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1 50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.03½	@	.04
New White, No. 2	.02½	@	.04
Light Silesias	.02½	@	.03
Silesias, No. 1	.03	@	.03½
Black Silesias, soft	.02½	@	.03
New Unbleached	.05	@	.05½
Washable, No. 1	.01	@	.01½
Blue Overall	.03	@	.03½
Cottons—According to grades—			
Washable, No. 2	.01	@	.02
New Blue	.01	@	.02
Fancy	.01½	@	—
New Black Soft	.02	@	.03
New Light Seconds	.01	@	.02
New Dark Seconds	1.50	@	1.75
Khaki Cuttings—			
No. 1 O.D.	.03	@	.03½
No. 2 Mixed	.02½	@	.03
Corduroy	.02	@	.02½
New Canvas	.03½	@	.04
New Black Mixed	.02½	@	.03

Domestic Rags (Old)

White No. 1—			
Repacked	2.50	@	3.00
Miscellaneous	1.75	@	2.00
M. G.	3.00	@	3.50
Thirds and Blues—			
Miscellaneous	1.00	@	1.25
Repacked	1.50	@	1.75
Black Stockings (Export)	2.00	@	3.50
Roofing Stock—			
Foreign No. 1	.50	@	.75
Repacked	.70	@	.80

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	—
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	1.60	@	1.70
No. 2 Hard White	1.50	@	1.60
No. 1 Soft White	1.40	@	1.45
No. 2 Soft White	1.10	@	1.15
No. 1 Mixed	.50	@	.60
No. 2 Mixed	.40	@	.50
Solid Ledger Stock	1.00	@	1.10
Writing Paper	.65	@	.70
No. 1 Books, heavy	.55	@	—
No. 2 Books, light	.40	@	—
No. 1 New Manila	1.10	@	1.15
No. 1 Old Manila	.60	@	.65
Print Manila	.40	@	.45
Container Manila	.35	@	.40
Old Kraft	.85	@	.90
Common Paper	.20	@	.25
No. 1 Mixed Paper	.25	@	.30
Straw Board, Chip	.25	@	.30
Binders Board, Chip	.25	@	.30
Corrugated Board	.35	@	.45
Overissue News	.45	@	.55
Old Newspaper	.30	@	.35

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.52½
Bonds—			
Sulphite	.05½	@	.11½
Rag Content	.12	@	.30
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06¼
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	—	@	.04¾
No. 2 Kraft	—	@	.02¾
(F. o. b. Boston)			
Southern Kraft	—	@	.02½
(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)			
Common Bogus	.02	@	.02¾
(Delivered New England points)			
News Print, rolls	44.50	@	—
Straw Board, rolls	.009	@	35.00
Straw Board in Sheets, basis 35s to 70s	—	@	40.00
Filled News Board	—	@	30.00
Chip Board	27.50	@	—
Chip Board (Creasing)	27.50	@	30.00
Single Manila Lined Chip	—	@	37.50
Single White, Patent Coated News Board—			
Bender	45.00	@	55.00
Wood Pulp Board	70.00	@	75.00
Binder Boards	62.00	@	75.00

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Soft White	1.50	@	1.65
No. 1 Old Manila	.50	@	.60
No. 2 Mixed	.50	@	.55
No. 1 Mixed	.75	@	.85
Solid Ledger Books	1.20	@	1.40
Overissue Ledger Stock	1.15	@	1.30
Mixed Ledgers	.60	@	.70
No. 1 Books, heavy	.55	@	.65
No. 1 Books, light	—	@	.30
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.25	@	1.30
No. 1 Old Manila	.55	@	.65
White Blank News	.90	@	.95
No. 1 Kraft	.75	@	.85
Manila	.80	@	.90
No. 1 Mixed Papers	.12½	@	.15
Print Manila	.30	@	.40
Overissue News	.35	@	.45
Old Newspapers	.35	@	.40
Box Board, Chip	.17½	@	.20
Corrugated Boxes	.20	@	.25
Screening Wrappers	.25	@	.32½

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	—	@	1.00
Domestic	.70	@	.75
Manila Rope—			
Foreign	1.25	@	1.45
Domestic	—	@	1 60
Transmission Rope	—	@	.90
Mixing String	—	@	.30
Jute Rope	—	@	.75
Jute Carpet Threads	45	@	.30
Bleachery Burlap	1.75	@	2.00
Scrap Burlap	.60	@	1.00
No. 1 Scrap Burlap	.75	@	.80
Scrap Sisal	.90	@	—
Scrap Sisal for shredding	—	@	.90
Wool Tares, heavy	.65	@	.75
New Burlap Cutting	.75	@	.90
Australian Wool Pouches	2.00	@	—
Heavy Baling Bagging	.90	@	1.10
Paper Mill Bagging	.50	@	.60
Bagging No. 2	.20	@	.25
No. 1 Burlap	1.75	@	2.00

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	—	@	.01½
New White No. 1	.03¾	@	.04
New White No. 2	.02¾	@	.03¼
Silesias No. 1	—	@	.03
New Black Silesias	.02½	@	.02¾
New Unbleached	.05	@	.05¼
Fancy	—	@	.02½
Washable	—	@	.01¾
Cottons—According to grades—			
Blue Overalls	—	@	.03¾
New Black, soft	.04	@	.04½
Khaki Cuttings	.03	@	.03½
O. D. Khaki	.03½	@	.03¾
Corduroy	.02¾	@	.03
New Canvas	—	@	.05
B.V.D. Cuttings	.04	@	.04¼

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.00	@	2.25
White No. 2—			
Repacked	.02¾	@	.02½
Miscellaneous	.02	@	.02¾
Twos and Blues	.90	@	1.00
Thirds and Blues—			
Repacked	.75	@	.85
Miscellaneous	.70	@	.75
Black Stockings	2.00	@	2.25
Roofing Stock—			
No. 1	.35	@	.40
No. 2	.30	@	.35
No. 3	.25	@	.30

Foreign Rags
(F. o. b. Boston)

Dark Cottons	.50	@	.60
New No. 1 White Shirt Cuttings	3.75	@	4.00
Dutch Blues	1.25	@	1.50
New Checks & Blues	2.25	@	2.50
Old Fustians	—	@	.75
Old Linsey Garments	.55	@	.65

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.10¼	@	—
No. 2 Sulphite	.08½	@	—
No. 1 Colored	.10¾	@	
No. 2 Colored	.09	@	.10½
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09	@	.09½
Book—			
No. 1 M. F. (Carloads)	6.65	@	—
No. 3 M. F. (Carloads)	6.20	@	—
No. 4 M. F. (carloads)	5.25	@	—
No. 1 S. C. (carloads)	7.15	@	—
No. 3 S. C. (carloads)	6.65	@	—
No. 4 S. C. (carloads)	5.70	@	—
No. 1 Coated and Litho	12.50	@	—
No. 2 Coated and Litho	11.50	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.00	@	—
Wrapping—			
Rag Brown	4.40	@	—
White Wrap	2.00	@	—
"B" Manila	4.90	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.75	@	—
Kraft No. 2	5.40	@	—

(F.O.B. Cars Toronto)

News, per ton—			
Rolls (contract)	45.50	@	—
Sheets	50.50	@	—

Pulp
(F. o. b. Mill)

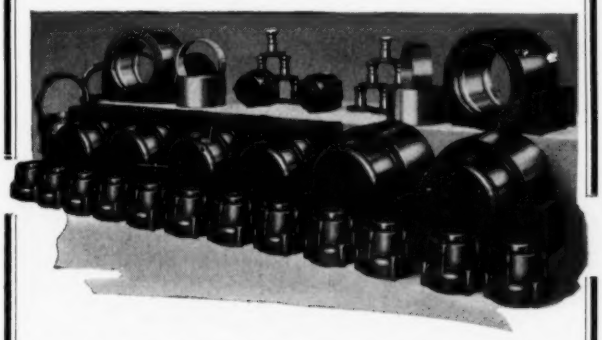
Ground Wood	18.00	@	20.00
Sulphite easy bleaching	40.00	@	—
Sulphite, news grade	38.00	@	—
Sulphite, bleached	48.00	@	58.00
Sulphate	50.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	1.80	@	—
Soft White	1.40	@	—
White Blk. News	1.25	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	—
Light and Crumpled Book Stock	.80	@	—
Ledgers and Writings	1.00	@	—
Manilas—			
New Manila Cut	1.25	@	—
Printed Manilas	.55	@	—
Kraft	1.75	@	—
News and Scrap—			
Strictly Overissue	.50	@	—
Strictly Folded	.50	@	—
No. 1 Mixed Paper	.40	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	09½	@	.10
Fancy Shirt Cuttings	.06	@	.06¼



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ESTABLISHED 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

SIXTY-FIRST YEAR

Published Every Thursday by the

LOCKWOOD TRADE JOURNAL CO., Inc.

GEO. S. MACDONALD, President. J. BANNINGA, Sec.-Treas.

Published at 34 No. Crystal St., East Stroudsburg, Pa.
Executive and Editorial Offices: 15 West 47th Street, New York
Chicago Office: 123 West Madison St.

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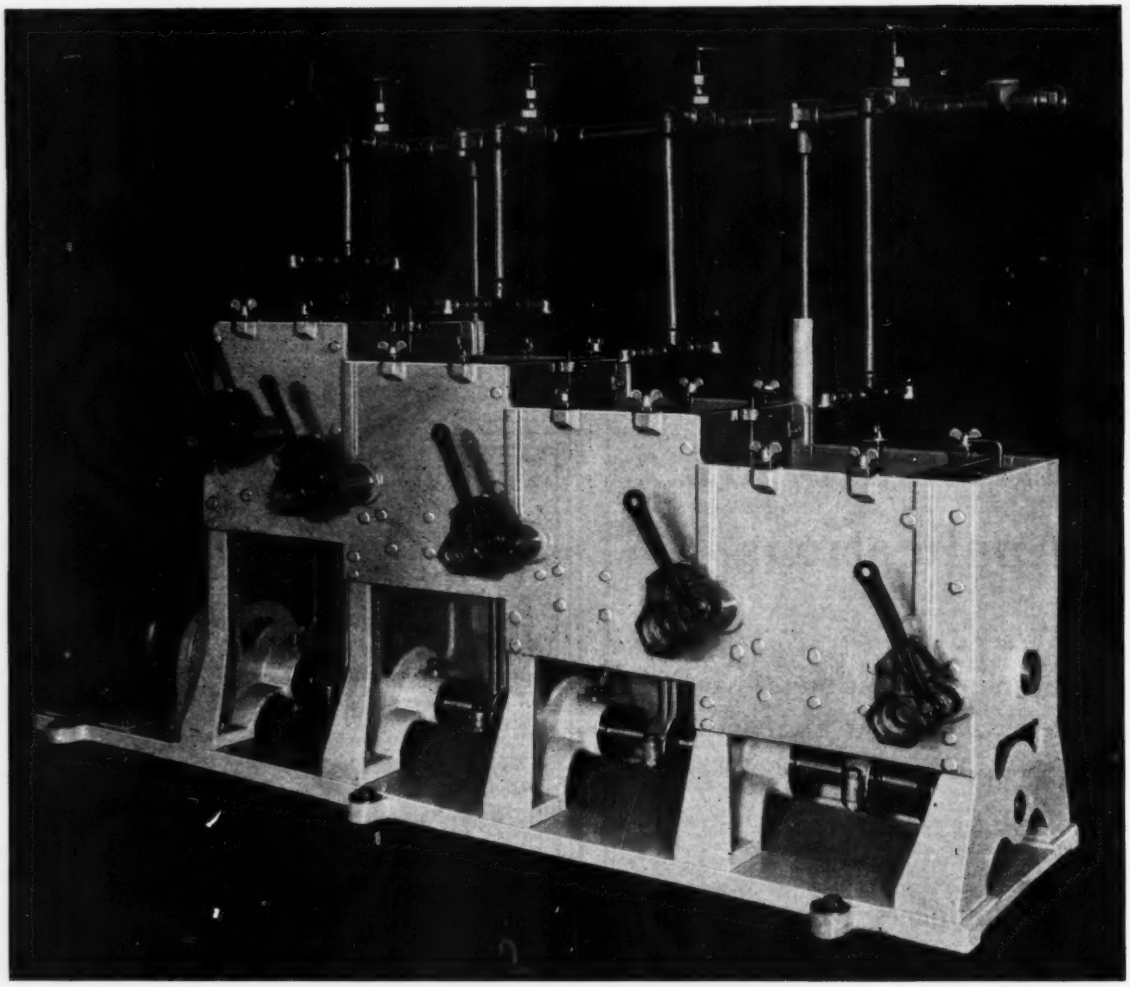

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